# SKETCHES

OF THE

# HISTORY OF MAN.

CONSIDERABLY ENLARGED,

BY THE LAST ADDITIONS AND CORRECTIONS

OF THE AUTHOR.

VOL. III.

---

BASIL:
Printed and sold by J. J. TOURNEISEN.
MDCCXCVI.

9615
13.

46
7 13
1007

# CONTENTS

OF THE

# THIRD VOLUME.

## BOOK II.

Progreſs of Men in Society.


Sketch — Pag.

9. Military branch of government, 1
10. Public police with reſpect to the poor, 48
11. A great city conſidered in phyſical, moral, and political views, 87
12. Origin and progreſs of American nations, 100


## BOOK III.

Progreſs of Sciences.


Sk.

1. Principles and progreſs of reaſon, 138

Sect.

1. Principles of reaſon, 138
2. Progreſs of reaſon, 160

Appendix, 200

A brief account of Ariſtotle's logic, with remarks, 214

Chap.

1. Of the firſt three treatiſes, ib.
2. Remarks, 239
3. Account of the Firſt Analytics, 254
4. Remarks, 264
5. Account of the remaining books of the Organon, 286
6. Reflections on the utility of logic, and the means of its improvement, 298

# THIRD VOLUME

## CONTENTS

# SKETCHES
## OF THE
# HISTORY OF MAN.

## BOOK II.

## Progress of MEN IN SOCIETY.

### SKETCH IX.

*Military Branch of Government.*

DURING the infancy of a nation, every member depends on his own industry for procuring the necessaries of life: he is his own mason, his own tailor, his own physician; and on himself he chiefly relies for offence as well as defence. Every savage can say, what few beggars among us can say, *Omnia mea mecum porto*; and hence the aptitude of a savage for war, which makes little alteration in his manner of living. In early times accordingly, the men were all warriors, and every known art was exercised by women: which continues to be the case of American savages. And even after arts were so much improved as to be exercised by men, none who could bear arms were exempted from war. In feudal governments, the military spirit was carried to a great height: all gentlemen were soldiers by profession; and every other art was despised, as low, if not contemptible.

Even in the unnatural ſtate of the feudal ſyſtem, arts made ſome progreſs, not excepting thoſe for amuſements; and many conveniencies, formerly unknown, became neceſſary to comfortable living. A man accuſtomed to manifold conveniencies, cannot bear with patience to be deprived of them: he hates war, and clings to the ſweets of peace. Hence the neceſſity of a military eſtabliſhment, hardening men by ſtrict diſcipline to endure the fatigues of war. By a ſtanding army, war is carried on more regularly and ſcientifically than in a feudal government; but as it is carried on with infinitely greater expenſe, nations are more reſerved in declaring war than formerly. Long experience has at the ſame time made it evident, that a nation ſeldom gains by war; and that agriculture, manufactures, and commerce, are the only ſolid foundations of power and grandeur. Theſe arts accordingly have become the chief objects of European governments, and the only rational cauſes of war. Among the warlike nations of Greece and Italy, how would it have ſounded, that their effeminate deſcendents would employ ſoldiers by profeſſion to fight their battles! And yet this is unavoidable in every country where arts and manufactures flouriſh; which, requiring little exerciſe, tend to enervate the body, and of courſe the mind. Gain, at the ſame time, being the ſole object of induſtry, advances ſelfiſhneſs to be the ruling paſſion, and brings on a timid anxiety about property and ſelf-preſervation. Cyrus, though enflamed with reſentment againſt the Lydians for revolting, liſtened to the following

advice, offered by Crœsus, their former King. "O "Cyrus, destroy not Sardis, an ancient city, famous "for arts and arms, but, pardoning what is past, "demand all their arms, encourage luxury, and "exhort them to instruct their children in every "art of gainful commerce. You will soon see, "O King, that instead of men, they will be women." The Arabians, a brave and generous people, conquered Spain; and drove into the inaccessible mountains of Biscay and Asturia, the few natives who stood out. When no longer an enemy appeared, they turned their swords into ploughshares, and became a rich and flourishing nation. The inhabitants of the mountains, hardened by poverty and situation, ventured, after a long interval, to peep out from their strong holds, and to lie in wait for straggling parties. Finding themselves now a match for a people, whom opulence had betrayed to luxury, and the arts of peace to cowardice; they took courage to display their banners in the open field, and after many military achievements, succeeded in reconquering Spain. The Scots, inhabiting the mountainous parts of Caledonia, were an overmatch for the Picts, who occupied the fertile plains, and at last subdued them[1].

[1] Before the time that all Scotland was brought under one king, the highlanders, divided into tribes or clans, made war upon each other; and continued the same practice irregularly many ages after they submitted to the king of Scotland. Open war was repressed, but it went on privately by depredations and reprisals. The clan-spirit was much depressed by their bad success in the rebellion 1715; and

Benjamin de Tudele, a Spaniſh Jew, who wrote in the twelfth century, obſerves, that by luxury and effeminacy the Greeks had contracted a degree of ſoftneſs, more proper for women than for men; and that the Greek Emperor was reduced to the neceſſity of employing mercenary troops, to defend his country againſt the Turks. In the year 1453, the city of Conſtantinople, defended by a garriſon not exceeding 6000 men, was beſieged by the Turks, and reduced to extremity, yet not a ſingle inhabitant had courage to take arms, all waiting with torpid deſpondence the hour of utter extirpation. Venice, Genoa, and other ſmall Italian ſtates, became ſo effeminate by long and ſucceſsful commerce, that not a citizen ever thought of ſerving in the army; which obliged them to employ mercenaries, officers as well as private men. Theſe mercenaries at firſt, fought conſcientiouſly for their pay; but reflecting, that the victors were no better paid than the vanquiſhed, they learned to play booty. In a battle particularly between the Piſans and Florentines, which laſted from ſun-riſing to ſun-ſetting, there was but a ſingle man loſt, who, having accidentally fallen from his horſe, was

totally cruſhed by the like bad ſucceſs in the rebellion 1745. The mildneſs with which the highlanders have been treated of late, and the pains that have been taken to introduce induſtry among them, have totally extirpated depredations and reprifals, and have rendered them the moſt peaceable people in Scotland; but have at the ſame time reduced their military ſpirit to a low ebb. To train them for war, military diſcipline has now become no leſs neceſſary than to others.

trodden under foot. Men at that time fought on horſeback, covered with iron from head to heel. Machiavel mentions a battle between the Florentines and Venetians which laſted half a day, neither party giving ground; ſome horſes wounded, not a man ſlain. He obſerves, that ſuch cowardice and diſorder was in the armies of thoſe times, that the turning of a ſingle horſe either to charge or retreat, would have decided a battle. Charles VIII. of France, when he invaded Italy *anno* 1498, underſtood not ſuch mock-battles; and his men were held to be devils incarnate, who ſeemed to take delight in ſhedding human blood. The Dutch, who for many years have been reduced to mercenary troops, are more indebted to the mutual jealouſy of their neighbours for their independence, than to their own army. In the year 1672, Lewis of France invaded Holland, and in forty days took forty walled towns. That country was ſaved, not by its army, but by being laid under water. Froſt, which is uſual at that ſeaſon, would have put an end to the ſeven United Provinces.

The ſmall principality of Palmyra is the only inſtance known in hiſtory, where the military ſpirit was not enervated by opulence. Pliny deſcribes that country as extremely pleaſant, and bleſſed with plenty of ſprings, though ſurrounded with dry and ſandy deſerts. The commerce of the Indies was at that time carried on by land; and the city of Palmyra was the centre of that commerce between the Eaſt and the Weſt. Its territory being very ſmall, little more than ſufficient for villas and

pleaſure-grounds, the inhabitants, like thoſe of Hamburgh, had no way to employ their riches for profit but in trade. At the ſame time, being ſituated between the two mighty empires of Rome and Parthia, it required great addreſs and the moſt aſſiduous military diſcipline, to guard it from being ſwallowed up by the one or the other. This ticklish ſituation preſerved the inhabitants from luxury and effeminacy, the uſual concomitants of riches. Their ſuperfluous wealth was laid out on magnificent buildings, and on embelliſhing their country-ſeats. The fine arts were among them carried to a high degree of perfection. The famous Zenobia, their Queen, being led captive to Rome after being deprived of her dominions, was admired and celebrated for ſpirit, for learning, and for an exquiſite taſte in the fine arts.

Thus, by accumulated wealth, a manufacturing and commercial people become a tempting object for conqueſt; and by effeminacy become an eaſy conqueſt. The military ſpirit ſeems to be at a low ebb in Britain: will no phantom appear, even in a dream, to diſturb our downy reſt? Formerly, plenty of corn in the temperate regions of Europe and Aſia, proved a tempting bait to northern ſavages who wanted bread: have we no cauſe to dread a ſimilar fate from ſome warlike neighbour, impelled by hunger, or by ambition, to extend his dominions? The difficulty of providing for defence, conſiſtent with induſtry, has produced a general opinion among political writers, that a nation, to preſerve its military ſpirit, muſt give up induſtry;

and to preſerve induſtry, muſt give up a military ſpirit. In the former caſe, we are ſecure againſt any invader: in the latter, we lie open to every invader. A military plan that would ſecure us againſt enemies, without hurting our induſtry and manufactures, would be a rich preſent to Britain. That ſuch a plan is poſſible, will appear from what follows; though I am far from hoping that it will meet with univerſal approbation. To prepare the reader, I ſhall premiſe an account of the different military eſtabliſhments that exiſt, and have exiſted, in Europe, with the advantages and diſadvantages of each. In examining theſe, who knows whether ſome hint may not occur of a plan more perfect than any of them.

The moſt illuſtrious military eſtabliſhment of antiquity is that of the Romans, by which they ſubdued almoſt all the known world. The citizens of Rome were all of them ſoldiers: they lived upon their pay when in the field; but if they happened not to be ſucceſsful in plundering, they ſtarved at home. An annual diſtribution of corn among them, became neceſſary; which in effect correſponded to the halfpay of our officers. It is believed, that ſuch a conſtitution would not be adopted by any modern ſtate. It was a forced conſtitution, contrary to nature, which gives different diſpoſitions to men, in order to ſupply hands for every neceſſary art. It was a hazardous conſtitution, having no medium between univerſal conqueſt and wretched ſlavery. Had the Gauls who conquered Rome, entertained any view but of

plunder, Rome would never have been heard of. It was on the brink of ruin in the war with Hannibal. What would have happened had Hannibal been victorious? It is eaſy to judge, by comparing it with Carthage. Carthage was a commercial ſtate, the people all employed in arts, manufactures, and navigation. The Carthaginians were ſubdued; but they could not be reduced to extremity, while they had acceſs to the ſea. In fact, they proſpered ſo much by commerce, even after they were ſubdued, as to raiſe jealouſy in their maſters; who thought themſelves not ſecure while a houſe remained in Carthage. On the other hand, what reſource for the inhabitants of Rome, had they been ſubdued? They muſt have periſhed by hunger; for they could not work. In a word, ancient Rome reſembles a gameſter who ventures all upon one deciſive throw: if he loſe, he is undone.

I take it for granted, that our feudal ſyſtem will not have a ſingle vote. It was a ſyſtem that led to confuſion and anarchy, as little fitted for war as for peace. And as for mercenary troops, it is unneceſſary to bring them again into the field, after what is ſaid of them above.

The only remaining forms that merit attention, are a ſtanding army, and a militia; which I ſhall examine in their order, with the objections that lie againſt each. The firſt ſtanding army in modern times was eſtabliſhed by Charles VII. of France, on a very imperfect plan. He began with a body of cavalry termed *companies of ordonnance*. And as for infantry, he, *anno* 1448, appointed each

parish to furnish an archer: these were termed *franc-archers*, because they were exempted from all taxes. This little army was intended for restoring peace and order at home, not for disturbing neighbouring states. The King had been forced into many perilous wars, some of them for restraining the turbulent spirit of his vassals, and most of them for defending his crown against an ambitious adversary, Henry V. of England. As these wars were carried on in the feudal mode, the soldiers, who had no pay, could not be restrained from plundering; and inveterate practice rendered them equally licentious in peace and in war. Charles, to leave no pretext for free quarters, laid upon his subjects a small tax, no more than sufficient for regular pay to his little army [1].

First attempts are commonly crude and defective. The franc-archers, dispersed one by one in different villages, and never collected but in time of action,

[1] This was the first tax imposed in France without consent of the three estates; and, however unconstitutional, it occasioned not the slightest murmur, because its visible good tendency reconciled all the world to it. Charles, beside, was a favorite of his people; and justly, as he showed by every act his affection for them. Had our first Charles been such a favorite, who knows whether the taxes he imposed without consent of parliament, would have met with any opposition? Such taxes would have become customary, as in France; and a limited monarchy would, as in France, have become absolute. Governments, like men, are liable to many revolutions: we remain, it is true, a free people; but for that blessing we are perhaps more indebted to fortune, than to patriotic vigilance.

could not eaſily be brought under regular diſcipline; in the field, they diſplayed nothing but vicious habits, a ſpirit of lazineſs, of diſorder, and of pilfering. Neither in peace were they of any uſe: their character of ſoldier made them deſpiſe agriculture, without being qualified for war: in the army they were no better than peaſants: at the plough, no better than idle ſoldiers. But in the hands of a monarch, a ſtanding army is an inſtrument of power, too valuable ever to be abandoned: if one ſovereign entertain ſuch an army, others in ſelf-defence muſt follow. Standing armies are now eſtabliſhed in every European ſtate, and are brought to a competent degree of perfection.

This new inſtrument of government, has produced a ſurpriſing change in manners. We now rely on a ſtanding army, for defence as well as offence: none but thoſe who are trained to war, ever think of handling arms, or even of defending themſelves againſt an enemy: our people have become altogether effeminate, terrified at the very ſight of a hoſtile weapon. It is true, they are not the leſs qualified for the arts of peace; and if manufacturers be protected from being obliged to ſerve in the army, I diſcover not any incompatibility between a ſtanding army and the higheſt induſtry. Huſbandmen at the ſame time make the beſt ſoldiers: a military ſpirit in the lower claſſes ariſes from bodily ſtrength, and from affection to their natal ſoil. Both are eminent in the huſbandman; conſtant exerciſe in the open air renders him hardy and robuſt; and fondneſs for the place where he finds

comfort and plenty, attaches him to his country in general. An artiſt or manufacturer, on the contrary, is attached to no country but where he finds the beſt bread; and a ſedentary life, enervating his body, renders him puſillanimous. For theſe reaſons, among many, agriculture ought to be honored and cheriſhed above all other arts. It

[1] Nunquam credo potuiſſe dubitari, aptiorem armis ruſticam plebem, quæ ſub divo & in labore nutritur; ſolis patiens; umbræ negligens; balnearum neſcia; deliciarum ignara; ſimplicis animi; parvo contenta; duratis ad omnem laborum tolerantiam membris: cui geſtare ferrum, foſſam ducere, onus ferre, conſuetudo de rure eſt. Nec inficiandum eſt, poſt urbem conditam, Romanos ex civitate profectos ſemper ad bellum: ſed tunc nullis voluptatibus, nullis deliciis frangebantur. Sudorem curſu & campeſtri exercitio collectum nando juventus abluebat in Tybere. Idem bellator, idem agricola, genera tantum mutabat armorum. *Vegetius, De re militari, l.* 1. *cap.* 3. — (*In Engliſh thus*: "I believe it was never doubted, that the country-laborers "were, of all others, the beſt ſoldiers. Inured to the "open air, and habitual toil, ſubjected to the extremes "of heat and cold, ignorant of the uſe of the bath, or "any of the luxuries of life, contented with bare neceſſaries; "there was no ſeverity in any change they could make: "their limbs, accuſtomed to the uſe of the ſpade and plough, "and habituated to burden, were capable of the utmoſt "extremity of toil. Indeed, in the earlieſt ages of the "commonwealth, while the city was in her infancy, the "citizens marched out from the town to the field: but at "that time they were not enfeebled by pleaſures, nor by "luxury: The military youth, returning from their exerciſe "and martial ſports, plunged into the Tyber to waſh off "the ſweat and duſt of the field. The warrior and the "huſbandman were the ſame, they changed only the "nature of their arms.")

is not only a fine preparation for war, by breeding men who love their country, and whom labor and ſobriety qualify for being ſoldiers; but is alſo the beſt foundation for commerce, by furniſhing both food and materials to the induſtrious.

But ſeveral objections occur againſt a ſtanding army, that call aloud for a better model than has hitherto been eſtabliſhed, at leaſt in Britain. The ſubject is intereſting, and I hope for attention from every man who loves his country. During the vigor of the feudal ſyſtem, which made every land-proprietor a ſoldier, every inch of ground was tenaciouſly diſputed with an invader: and while a ſovereign retained any part of his dominions, he never loſt hopes of recovering the whole. At preſent, we rely entirely on a ſtanding army, for defence as well as offence; which has reduced every nation in Europe to a precarious ſtate. If the army of a nation happen to be defeated, even at the moſt diſtant frontier, there is little reſource againſt a total conqueſt. Compare the hiſtory of Charles VII. with that of Lewis XIV. Kings of France. The former, though driven into a corner by Henry V. of England, was however far from yielding: on the contrary, relying on the military ſpirit of his people, and indefatigably intent on ſtratagem and ſurpriſe, he recovered all he had loſt. When Lewis XIV. ſucceeded to the crown, the military ſpirit of the people was contracted within the narrow ſpan of a ſtanding army. Behold the conſequence. That ambitious monarch, having provoked his neighbours into an alliance againſt

him, had no reſource againſt a more numerous army, but to purchaſe peace by an abandon of all his conqueſts, upon which he had laviſhed much blood and treaſure *. France at that period contained ſeveral millions capable of bearing arms; and yet was not in a condition to make head againſt a diſciplined army of 70,000 men. Poland, which continues upon the ancient military eſtabliſhment, wearied out Charles XII. of Sweden; and had done the ſame to ſeveral of his predeceſſors. But Saxony, defended only by a ſtanding army, could not hold out a ſingle day againſt the prince now mentioned, at the head of a greater army. Mercenary troops are a defence ſtill more feeble, againſt troops that fight for glory, or for their country. Unhappy was the invention of a ſtanding army; which, without being any ſtrong bulwark againſt enemies, is a grievous burden on the people; and turns daily more and more ſo. Liſten to a firſt-rate author on that point. "Sitôt qu'un état augmente ce qu'il "appelle ſes troupes, les autres augmentent les "leurs; de façon qu'on ne gagne rien par-là que "la ruine commune. Chaque monarque tient ſur "pied toutes les armées qu'il pourroit avoir ſi ſes "peuples étoient en danger d'être exterminés; "& on nomme paix cet état d'effort de tous contre "tous. Nous ſommes pauvres avec les richeſſes & "le commerce de tout l'univers; & bientôt à force "d'avoir des ſoldats, nous n'aurons plus que

* Treaty of St Germudenberg.

" des ſoldats, & nous ſerons comme de Tartares[a]."

But with reſpect to Britain, and every free nation, there is an objection ſtill more formidable; which is, that a ſtanding army is dangerous to liberty. It avails very little to be ſecure againſt foreign enemies, ſuppoſing a ſtanding army to afford ſecurity, if we have no ſecurity againſt an enemy at home. If a warlike king, heading his own troops, be ambitious to render himſelf abſolute, there are no means to evade the impending blow; for what avail the greateſt number of effeminate cowards againſt a diſciplined army, devoted to their prince, and ready implicitly to execute his commands? In a word, by relying entirely on a ſtanding army, and by truſting the ſword in the hands of men who abhor the reſtraints of civil law, a ſolid foundation is laid for military government. Thus a ſtanding army is dangerous to liberty, and yet no ſufficient bulwark againſt powerful neighbours.

[a] "As ſoon as one ſtate augments the number of its "troops, the neighbouring ſtates of courſe do the ſame; "ſo that nothing is gained, and the effect is, the general "ruin. Every prince keeps as many armies in pay, as if "he dreaded the extermination of his people from a foreign "invaſion; and this perpetual ſtruggle, maintained by all "againſt all, is termed *peace*. With the riches and com-"merce of the whole univerſe, we are in a ſtate of poverty; "and by thus continually augmenting our troops, we ſhall "ſoon have none elſe but ſoldiers, and be reduced to the "ſame ſituation as the Tartars."

[a] L'eſprit des loix, liv. 13. chap. 17.

Deeply ſenſible of the foregoing objections, Harrington propoſes a militia as a remedy. Every male between eighteen and thirty, is to be trained to military exerciſes, by frequent meetings, where the youth are excited by premiums to contend in running, wreſtling, ſhooting a mark, &c. &c. But Harrington did not advert, that ſuch meetings, enflaming the military ſpirit, muſt create an averſion in the people to dull and fatiguing labor. His plan evidently is inconſiſtent with induſtry and manufactures: it would be ſo at leaſt in Britain. An unexceptionable plan it would be, were defence our ſole object; and not the leſs ſo by reducing Britain to ſuch poverty as ſcarce to be a tempting conqueſt. Our late war with France is a conſpicuous inſtance of the power of a commercial ſtate, entire in its credit; a power that amazed all the world, and ourſelves no leſs than others. Politicians begin to conſider Britain, and not France, to be the formidable power that threatens univerſal monarchy. Had Harrington's plan been adopted, Britain muſt have been reduced to a level with Sweden or Denmark, having no ambition but to draw ſubſidies from its more potent neighbours.

In Switzerland, it is true, boys are, from the age of twelve, exerciſed in running, wreſtling, and ſhooting. Every male who can bear arms is regimented, and ſubjected to military diſcipline. Here is a militia in perfection upon Harrington's plan, a militia neither forced nor mercenary; invincible when fighting for their country. And as the Swiſs are not an idle people, we learn from

this inſtance, that the martial ſpirit is not an invincible obſtruction to induſtry. But the original barrenneſs of Switzerland, compelled the inhabitants to be ſober and induſtrious: and induſtry hath among them become a ſecond nature; there ſcarcely being a child above ſix years of age but who is employed, not excepting children of opulent families. England differs widely in the nature of its ſoil, and of its people. But there is little occaſion to inſiſt upon that difference; as Switzerland affords no clear evidence, that a ſpirit of induſtry is perfectly compatible with a militia: the Swiſs, it is true, may be termed induſtrious; but their induſtry is confined to neceſſaries and conveniencies: they are leſs ambitious of wealth than of military glory; and they have few arts or manufactures, either to ſupport foreign commerce, or to excite luxury.

Fletcher of Salton's plan of a militia, differs little from that of Harrington. Three camps are to be conſtantly kept up in England, and a fourth in Scotland; into one or other of which, every man muſt enter upon completing his one-and-twentieth year. In theſe camps, the art of war is to be acquired and practiſed: thoſe who can maintain themſelves muſt continue there two years; others but a ſingle year. Secondly, Thoſe who have been thus educated, ſhall for ever after have fifty yearly meetings, and ſhall exerciſe four hours every meeting. It is not ſaid, by what means young men are compelled to reſort to the camp; nor is any exception mentioned of perſons deſtined for the church,

church, for liberal ſciences, or for the fine arts. The weak and the ſickly muſt be exempted; and yet no regulation is propoſed againſt thoſe who abſent themſelves on a falſe pretext. But waving theſe, the capital objection againſt Harrington's plan ſtrikes equally againſt Fletcher's, That by rouſing a military ſpirit, it would alienate the minds of our people from arts and manufactures, and from conſtant and uniform occupation. The author himſelf remarks, that the uſe and exerciſe of arms, would make the youth place their honor upon that art, and would enflame them with love of military glory; not adverting, that love of military glory, diffuſed through the whole maſs of the people, would unqualify Britain for being a manufacturing and commercial country, rendering it of little weight or conſideration in Europe.

The military branch is eſſential to every ſpecies of government: The Quakers are the only people who ever doubted of it. Is it not then mortifying, that a capital branch of government, ſhould to this day remain in a ſtate ſo imperfect? One would ſuſpect ſome inherent vice in the nature of government, that counteracts every effort of genius to produce a more perfect mode. I am not diſpoſed to admit any ſuch defect, eſpecially in an article eſſential to the well-being of ſociety; and rather than yield to the charge, I venture to propoſe the following plan, even at the hazard of being thought an idle projector. And what animates me greatly to make the attempt, is a firm conviction that a military and an induſtrious ſpirit are of equal

importance to Britain; and that if either of them be loſt, we are undone. To reconcile theſe ſeeming antagoniſts, is my chief view in the following plan; to which I ſhall proceed, after paving the way by ſome preliminary conſiderations.

The firſt is, that as military force is eſſential to every ſtate, no man is exempted from bearing arms for his country: all are bound; becauſe no perſon has right to be exempted more than another. Were any difference to be made, perſons of figure and fortune ought firſt to be called to that ſervice, as being the moſt intereſted in the welfare of their country. Liſten to a good ſoldier delivering his opinion on that ſubject. "Les levées qui ſe font " par ſupercherie ſont tout auſſi odieuſes; on met " de l'argent dans la pochette d'un homme, & on " lui dit qu'il eſt ſoldat. Celles qui ſe font par " force, le ſont encore plus; c'eſt une déſolation " publique, dont le bourgeois & l'habitant ne ſe " ſauvent qu'à force d'argent, & dont le fond eſt " toujours un moyen odieux. Ne vaudroit-il pas " mieux établir, par une loi, que tout homme, " de quelle condition qu'il fût, ſeroit obligé de " ſervir ſon prince & ſa patrie pendant cinq ans? " Cette loi ne ſçauroit être déſapprouvée, parce " qu'il eſt naturel & juſte que les citoyens s'emploient " pour la défenſe de l'état. Cette méthode de lever " des troupes ſeroit un fond inépuiſable de belles " & bonnes recrues, qui ne ſeroient pas ſujettes a " déſerter. L'on ſe feroit même, par la ſuite, un " honneur & un devoir de ſervir ſa tâche. Mais, " pour y parvenir, il faudroit n'en excepter aucune

« condition, être sévère sur ce point, & s'attacher « a faire exécuter cette loi de préférence aux nobles « & aux riches. Personne n'en murmureroit. Alors « ceux qui auroient servi leur temps, verroient avec « mépris ceux qui repugneroient à cette loi, & « insensiblement on se feroit un honneur de servir: « le pauvre bourgeois seroit consolé par l'exemple « du riche: & celui-ci n'oseroit se plaindre, voyant « servir le noble [a], [b]."

[a] Les Réveries du Comte de Saxe.

[b] "The method of inlisting men, by putting a trick upon "them, is fully as odious. They slip a piece of money "into a man's pocket, and then tell him he is a soldier. "Inlisting by force is still more odious. It is a public "calamity, from which the citizen has no means of saving "himself but by money; and it is consequently the worst of "all the resources of government. Would it not be more "expedient to enact a law, obliging every man, whatever "be his rank, to serve his King and country for five years? "This law could not be disapproved of, because it is con-"sistent both with nature and justice, that every citizen "should be employed in the defence of the state. Here "would be an inexhaustible fund of good and able soldiers, "who would not be apt to desert, as every man would "reckon it both his honor and his duty to have served his "time. But to effect this, it must be a fixed principle, "That there shall be no exception of ranks. This point "must be rigorously attended to, and the law must be "enforced, by way of preference, first among the nobility "and the men of wealth. There would not be a single man "who would complain of it. A person who had served his "time, would treat with contempt another who should show "reluctance to comply with the law; and thus, by degrees, "it would become a task of honor. The poor citizen would "be comforted and inspirited by the example of his rich

Take another preliminary conſideration. While there were any remains among us of a martial ſpirit, the difficulty was not great of recruiting the army. But that taſk hath of late years become troubleſome; and more diſagreeable ſtill than troubleſome, by the neceſſity of uſing deceitful arts for trepanning the unwary youth. Nor are ſuch arts always ſucceſsful; in our late war with France, we were neceſſitated to give up even the appearance of voluntary ſervice, and to recruit the army on the ſolid principle, that every man ſhould fight for his country; the juſtices of peace being empowered to force into the ſervice ſuch as could be beſt ſpared from civil occupation. If a ſingle clauſe had been added, limiting the ſervice to five or ſeven years, the meaſure would have been unexceptionable, even in a land of liberty. To relieve officers of the army from the neceſſity of practiſing deceitful arts, by ſubſtituting a fair and conſtitutional mode of recruiting the army, was a valuable improvement. It was of importance with reſpect to its direct intendment; but of much greater, with reſpect to its conſequences. One of the few diſadvantages of a free ſtate, is licentiouſneſs in the common people, who may wallow in diſorder and profligacy without control, if they but refrain from groſs crimes, puniſhable by law. Now, as it appears to me, there never was deviſed a plan more efficacious for reſtoring induſtry and ſobriety, than that under

" neighbour; and he again would have nothing to com-
" plain of, when he ſaw that the nobleman was not exempted
" from ſervice."

conſideration. Its ſalutary effects were conſpicuous, even during the ſhort time it ſubſiſted. The dread of being forced into the ſervice, rendered the populace peaceable and orderly: it did more; it rendered them induſtrious in order to conciliate favor. The moſt beneficial diſcoveries have been accidental: without having any view but for recruiting the army, our legiſlature ſtumbled upon an excellent plan for reclaiming the idle and the profligate; a matter, in the preſent depravity of manners, of greater importance than any other that concerns the police of Britain. A perpetual law of that kind, by promoting induſtry, would prove a ſovereign remedy againſt mobs and riots, diſeaſes of a free ſtate, full of people and of manufactures [1]. Why were the foregoing ſtatutes, for there were two of them, limited to a temporary exiſtence? There is not on record another ſtatute better entitled to immortality.

And now to the project, which after all my efforts I produce with trepidation; not from any doubt of its ſolidity, but as ill ſuited to the preſent manners of this iſland. To hope that it will be put in practice, would indeed be highly ridiculous: this can never happen, till patriotiſm flouriſh more

[1] Several late mobs in the ſouth of England, all of them on pretext of ſcarcity, greatly alarmed the adminiſtration. A fact was diſcovered by a private perſon (*Six-weeks tour through the ſouth of England*) which our miniſters ought to have diſcovered, that theſe mobs conſtantly happened where wages were high and proviſions low; conſequently that they were occaſioned, not by want, but by wantonneſs.

in Britain than it has done for ſome time paſt. Suppoſing now an army of 60,000 men to be ſufficient for Britain, a rational method for raiſing ſuch an army, were there no ſtanding forces, would be, that land-proprietors, in proportion to their valued rents, ſhould furniſh men to ſerve ſeven years, and no longer [10]. But as it would be no leſs unjuſt than imprudent, to diſband at once our preſent army, we begin with moulding gradually the old army into the new, by filling up vacancies with men bound to ſerve ſeven years and no longer. And for raiſing proper men, a matter of much delicacy, it is propoſed, that in every ſhire a ſpecial commiſſion be given to certain landholders of rank and figure, to raiſe recruits out of the lower claſſes, ſelecting always thoſe who are the leaſt uſeful at home.

Second. Thoſe who claim to be diſmiſſed after ſerving the appointed time, ſhall never again be called to the ſervice, except in caſe of an actual invaſion. They ſhall be entitled each of them to a premium of eight or ten pounds, for enabling them to follow a trade or calling, without being ſubjected to corporation-laws. The private men in France are inliſted but for ſix years; and that mode has never been attended with any inconvenience [11].

[10] In Denmark, every land-proprietor of a certain rent, is obliged to furniſh a militia-man, whom he can withdraw at pleaſure upon ſubſtituting another; an excellent method for taming the peaſants, and for rendering them induſtrious.

[11] Had the plan of diſcharging ſoldiers after a ſervice of five

Third. With reſpect to the private men, idleneſs muſt be totally and for ever baniſhed. Suppoſing three months yearly to be ſufficient for military diſcipline; the men, during the reſt of the year, ought to be employed upon public works, forming roads, erecting bridges, making rivers navigable, clearing harbours, &c. &c. Why not alſo furniſh men for half-pay to private undertakers of uſeful works? And ſuppoſing the daily pay of a ſoldier to be ten pence, it would greatly encourage extenſive improvements, to have at command a number of ſtout fellows under ſtrict diſcipline, at the low wages of five pence a-day. An army of 60,000 men thus employed, would not be ſo expenſive to the public, as 20,000 men upon the preſent eſtabliſhment: for beſide the money contributed by private undertakers, public works carried on by ſoldiers would be miſerably ill contrived, if not cheaply purchaſed with their pay".

It has more than once been under deliberation, whether the tolls may not be added to the public revenue, after paying the expenſe of keeping the

or ſeven years been early adopted by the Emperors of Rome, the Pretorian bands would never have become maſters of the ſtate. It was a groſs error to keep theſe troops always on foot without change of members; which gave them a confidence in one another, to unite in one ſolid body, and to be actuated as it were by one mind.

" Taking this for granted, I bring only into the computation the pay of the three months ſpent in military diſcipline; and the calculation is very ſimple, the pay of 20,000 for twelve months amounting to a greater ſum than the pay of 60,000 for three months.

turnpike-roads in good order. But as miniſters frequently are more intent upon ſerving themſelves than their country, it may happen that the tolls will be levied and the roads neglected. Upon the plan here propoſed of a military eſtabliſhment, the reparation of the roads would contribute to keep the ſoldiers in conſtant employment. And as it would be difficult otherwiſe to find conſtant exerciſe for threeſcore thouſand men; no miniſter ſurely, for the ſake of his own character, will ſuffer men in government-pay to remain idle, when they can be employed ſo uſefully for the public ſervice. Now, were a law made permitting no wheel-carriages on a toll-road that require more than one horſe, it would leſſen wonderfully the expenſe of reparation. Nor would ſuch a law be a hardſhip, as goods can be carried cheaper that way than in huge waggons, requiring from ſix to ten horſes [11]. By ſuch a law the tolls would make a capital branch of the public revenue, being levied without any deduction but for carrying gravel, or ſtones where gravel is not to be had.

The moſt important branch of the project, is what regards the officers. The neceſſity of reviving in our people of rank ſome military ſpirit, will be acknowledged by every perſon of reflection; and in that view, the following articles are propoſed. Firſt, That there be two claſſes of officers, one ſerving for pay, one without pay. In filling up every vacant office of cornet or enſign, the latter are to be preferred: but in progreſſive advancement,

[11] Gentleman Farmer, edition ſecond, pag. 46.

no diſtinction is to be made between the claſſes. An officer who has ſerved ſeven years without pay, may retire with honor.

Second. No man ſhall be privileged to repreſent a county in parliament, who has not ſerved ſeven years without pay; and, excepting an actual burgeſs, none but thoſe who have performed that ſervice, ſhall be privileged to repreſenting a borough. The ſame qualification ſhall be neceſſary to every one who aſpires to ſerve the public or the King in an office of dignity; excepting only churchmen and lawyers with regard to offices in their reſpective profeſſions. In old Rome, none were admitted candidates for any civil employment, till they had ſerved ten years in the army.

Third. Officers of this claſs are to be exempted from the taxes impoſed on land, coaches, windows, and plate; not for ſaving a trifling ſum, but as a mark of diſtinction.

The military ſpirit muſt in Britain be miſerably low, if ſuch regulations prove not effectual to decorate the army with officers of figure and fortune. Nor need we to apprehend any bad conſequence from a number of raw officers who ſerve without pay: among men of birth, emulation will have a more commanding influence than pay or profit; and at any rate, there will always be a ſufficiency of old and experienced officers receiving pay, ready to take the lead in every difficult enterpriſe.

To improve this army in military diſcipline, it is propoſed, that when occaſion offers, 5 or 6000 of them be maintained by Great Britain, as auxiliaries

to ſome ally at war. And if that body be changed from time to time, knowſledge and practice in war will be diffuſed through the whole army.

Officers who ſerve for pay, will be greatly benefited by this plan: frequent removes of thoſe who ſerve without pay, make way for them; and the very nature of the plan excludes buying and ſelling.

I proceed to the alterations neceſſary for accommodating this plan to our preſent military eſtabliſhment. As a total revolution at one inſtant would breed confuſion, the firſt ſtep ought to be a ſpecimen only, ſuch as the levying two or three regiments on the new model; the expenſe of which ought not to be grudged, as the forces preſently in pay, are not ſufficient, even in peace, to anſwer the ordinary demands of government. And as the proſpect of civil employments, will excite more men of rank to offer their ſervice than can be taken in, the choice muſt be in the crown, not only with reſpect to the new regiments, but with reſpect to the vacant offices of cornet and enſign in the old army. But as theſe regulations will not inſtantly produce men qualified to be ſecretaries of ſtate or commiſſioners of treaſury, ſo numerous as to afford his Majeſty a ſatisfactory choice; that branch of the plan may be ſuſpended, till thoſe who have ſerved ſeven years, without pay, amount to one hundred at leaſt. The article that concerns members of parliament muſt be ſtill longer ſuſpended: it may however, after the firſt ſeven years, receive execution in part, by privileging thoſe who have ſerved

without pay to repreſent a borough, refuſing that privilege to others, except to actual burgeſſes. We may proceed one ſtep farther, That if in a county there be five gentlemen who have the qualification under conſideration, over and above the ordinary legal qualifications; one of the five muſt be choſen, leaving the electors free as to their other repreſentative.

With reſpect to the private men of the old army, a thouſand of ſuch as have ſerved the longeſt may be diſbanded annually, if ſo many be willing to retire; and in their ſtead an equal number may be inliſted to ſerve but ſeven years. Upon ſuch a plan, it will not be difficult to find recruits.

The advantage of this plan, in one particular, is eminent. It will infallibly fill the army with gallant officers: Other advantages concerning the officers themſelves, ſhall be mentioned afterward. An appetite for military glory, cannot fail to be rouſed in officers who ſerve without pay, when their ſervice is the only paſſport to employments of truſt and honor. And may we not hope, that officers who ſerve for pay, will, by force of imitation, be inſpired with the ſame appetite? Nothing ought to be more ſedulouſly inculcated into every officer, than to deſpiſe riches, as a mercantile object below the dignity of a ſoldier. Often has the courage of victorious troops been blunted by the pillage of an opulent city; and may not rich captures at ſea have the ſame effect? Some ſea-commanders have been ſuſpected, of beſtowing their fire more willingly upon a mer-

chantman, than upon a ſhip of war. A triumph, an ovation, a civic crown, or ſome ſuch mark of honor, were in old Rome the only rewards for military achievements [14]. Money, it is true, was ſome times diſtributed among the private men, as an addition to their pay, after a fatiguing campaign; but not as a recompence for their good behaviour, becauſe all ſhared alike. It did not eſcape the penetrating Romans, that wealth, the parent of luxury and ſelfiſhneſs, fails not to eradicate the military ſpirit. The ſoldier who to recover his baggage performed a bold action, gave an inſtructive leſſon to all princes. Being invited by his general to try his fortune a ſecond time. "Invite "(ſays the ſoldier) one who has loſt his baggage." Many a bold adventurer goes to the Indies, who, returning with a fortune, is afraid of every breeze. Britain, I ſuſpect, is too much infected with the ſpirit of gain. Will it be thought ridiculous in any man of figure, to prefer reputation and reſpect before riches; provided only he can afford a frugal meal, and a warm garment? Let us compare an

[14] A Roman triumph was finely contrived to excite heroiſm; and a ſort of triumph no leſs ſplendid, was uſual among the Fatemite Califs of Egypt. After returning from a ſucceſsful expedition, the Calif pitched his camp in a ſpacious plain near his capital, where he was attended by all his grandees, in their fineſt equipages. Three days were commonly ſpent in all manner of rejoicings, feaſtings, muſic, fireworks, &c. He marched into the city with this great cavalcade, through roads covered with rich carpets, ſtrewed with flowers, gums, and odoriferous plants, and lined on both ſides with crowds of congratulating ſubjects.

old officer, who never deſerted his friend nor his country, and a wealthy merchant, who never indulged a thought but of gain: the wealth is tempting; — and yet does there exiſt a man of ſpirit, who would not be the officer rather than the merchant, even with his millions? Sultan Mechmet granted to the Janiſſaries a privilege of importing foreign commodities free of duty: was it his intention to metamorphoſe ſoldiers into merchants, loving peace, and hating war?

In the war 1672 carried on by Lewis XIV. againſt the Dutch, Dupas was made governor of Naerden, recommended by the Duke of Luxembourg; who wrote to M. de Louvois, that he wiſhed nothing more ardently, than that the Prince of Orange would beſiege Naerden, being certain of a defence ſo ſkilful and vigorous, as to furniſh an opportunity for another victory over the Prince. Dupas had ſerved long in honorable poverty; but in this rich town he made a ſhift to amaſs a conſiderable ſum. Terrified to be reduced to his former poverty, he ſurrendered the town on the firſt ſummons. He was degraded in a court-martial, and condemned to perpetual priſon and poverty. Having obtained his liberty at the ſolicitation of the Viſcount de Turenne, he recovered his former valor, and ventured his life freely on all occaſions.

But though I declare againſt large appointments beforehand, which, inſtead of promoting ſervice, excite luxury and effeminacy; yet to an officer of character, who has ſpent his younger years in ſerving his king and country, a government or

other ſuitable employment that enables him to paſs the remainder of his life in eaſe and affluence, is a proper reward for merit, reflecting equal honor on the prince who beſtows, and on the ſubject who receives; beſide affording an enlivening proſpect to others, who have it at heart to do well.

With reſpect to the private men, the rotation propoſed, aims at improvements far more important than that of making military ſervice fall light upon individuals. It tends to unite the ſpirit of induſtry with that of war; and to form the ſame man to be an induſtrious laborer, and a good ſoldier. The continual exerciſe recommanded, cannot fail to produce a ſpirit of induſtry; which will occaſion a demand for the private men after their ſeven years ſervice, as valuable above all other laborers, not only for regularity, but for activity. And with reſpect to ſervice in war, conſtant exerciſe is the life of an army, in the literal as well as metaphorical ſenſe. Boldneſs is inſpired by ſtrength and agility, to which conſtant motion mainly contributes. The Roman citizens, trained to arms from their infancy and never allowed to reſt, were invincible. To mention no other works, ſpacious and durable roads carried to the very extremities of that vaſt empire, ſhow clearly how the ſoldiers were employed during peace; which hardened them for war, and made them orderly and ſubmiſſive [11]. So eſſential was labor held by the Romans for training an army, that they never ventured to face an enemy with

[11] Bergier, hiſtoire des grands chemins, vol. 2. p. 152.

troops debilitated with idleneſs. The Roman army in Spain, having been worſted in ſeveral engagements and confined within their intrenchments, were ſunk in idleneſs and luxury. Scipio Naſica, having demoliſhed Carthage, took the command of that army; but durſt not oppoſe it to the enemy, till he had accuſtomed the ſoldiers to temperance and hard labor. He exerciſed them without relaxation, in marching and countermarching, in fortifying camps and demoliſhing them, in digging trenches and filling them up, in building high walls and pulling them down; he himſelf, from morning till evening, going about, and directing every operation. Marius, before engaging the Cimbri, exerciſed his army in turning the courſe of a river. Appian relates, that Antiochus, during his winter-quarters at Calchis, having married a beautiful virgin with whom he was greatly enamoured, ſpent the whole winter in pleaſure, abandoning his army to vice and idleneſs; and that when the time of action returned with the ſpring, he found his ſoldiers unfit for ſervice. It is reported of Hannibal, that to preſerve his troops from the infection of idleneſs, he employed them in making large plantations of olive-trees. The Emperor Probus exerciſed his legions in covering with vineyards the hills of Gaul and Pannonia. The idleneſs of our ſoldiers in time of peace, promoting debauchery and licentiouſneſs, is no leſs deſtructive to health than to diſcipline. Unable for the fatigues of a firſt campaign, our private men die in thouſands, as if ſmitten with a

peſtilence [1]. We never read of any mortality in the Roman legions, though frequently engaged in climates very different from their own. Let us liſten to a judicious writer, to whom every one liſtens with delight: "Nous remarquons adjourd'hui, "que nos armées périſſent beaucoup par le travail "immodéré des ſoldats; & cependant c'étoit par "un travail immenſe que les Romains ſe conſer-"voient. La raiſon en eſt, je croix, que leurs "fatigues étoient continuelles; au lieu que nos "ſoldats paſſent ſans ceſſe d'un travail extrême à "une extrême oiſivété, ce qui eſt la choſe du "monde la plus propre à les faire périr. Il faut "que je rapporte ici ce que les auteurs nous diſent "de l'éducation des ſoldats Romains. On les ac-"coutumoit à aller le pas militaire, c'eſt-a-dire, à "faire en cinq heures vingt milles, & quelquefois "vingt-quatre. Pendant ces marches, on leur "faiſoit porter des poids de ſoixante livres. On les

[1] The idleneſs of Britiſh ſoldiers appears from a tranſaction of the commiſſioners of the annexed eſtates in Scotland. After the late war with France, they judged, that part of the King's rents could not be better applied, than in giving bread to the disbanded ſoldiers. Houſes were built for them, portions of land given them to cultivate at a very low rent, and maintenance afforded them till they could reap a crop. Theſe men could not wiſh to be better accommodated: but ſo accuſtomed they had been to idleneſs and change of place, as to be incapable of any ſort of work: they deſerted their farms one after another, and commenced thieves and beggars. Such as had been made ſerjeants muſt be excepted: theſe were ſenſible fellows, and proſpered in their little farms.

"entretenoit

" entretenoit dans l'habitude de courir & de ſauter " tout armés ; ils prenoient dans leurs exercices des " epées, des javelots, des flêches, d'une péſanteur " double des armes ordinaires ; & ces exercices " étoient continuels. Des hommes ſi endurcis " étoient ordinairement ſains ; on ne remarque pas " dans les auteurs que les armées Romaines, qui " faiſoient la guerre en tant de climats, périſſoient " beaucoup par les maladies ; au lieu qu'il arrive " preſque continuellement aujourd'hui, que des " armées, ſans avoir combattu, ſe fondent, pour " ainſi dire, dans une campagne [17], [18]." Our author muſt be here underſtood of the early times of the Roman ſtate. Military diſcipline was much ſunk in the fourth century when Vegetius wrote (Lib. 3. cap. 14, 15.). The ſword and Pilum, theſe formidable weapons of their forefathers, were totally

[17] Monteſquieu, Grandeur des Romains, chap. 2.

[18] " We obſerve now-a-days, that our armies are con- " ſumed by the fatigues and ſevere labor of the ſoldiers ; " and yet it was alone by labor and toil that the Romans " preſerved themſelves from deſtruction. I believe the " reaſon is, that their fatigue was continual and unremit- " ting, while the life of our ſoldiers is a perpetual tranſition " from ſevere labor to extreme indolence, a life the moſt " ruinous of all others. I muſt here recite the account " which the Roman authors give of the education of their " ſoldiers. They were continually habituated to the mili- " tary pace, which was, to march in five hours twenty, " and ſometimes twenty-four miles. In theſe marches each " ſoldier carried ſixty pounds weight. They were accuſ- " tomed to run and leap in arms ; and in their military " exerciſes, their ſwords, javelins, and arrows, were of

laid aſide for ſlings and bows, the weapons of effeminate people. About this time it was, that the Romans left off fortifying their camps, a work too laborious for their weakly conſtitutions. Mareſchal de Saxe, a ſoldier, not a phyſician, aſcribes to the uſe of vinegar the healthineſs of the Roman legions: were vinegar ſo ſalutary, it would of all liquors be the moſt in requeſt. Exerciſe without intermiſſion, during peace as well as during war, produced that ſalutary effect; which every prince will find, who is diſpoſed to copy the Roman diſcipline [19]. The Mareſchal gueſſes better with reſpect to a horſe. Diſcourſing of cavalry, he obſerves, that a horſe becomes hardy and healthful

" twice the ordinary weight. Theſe exerciſes were con-
" tinual, which ſo ſtrengthened the conſtitution of the
" men, that they were always in health. We ſee no
" remarks in the Roman authors, that their armies, in the
" variety of climates where they made war, ever periſhed
" by diſeaſe; whilſt now-a-days it is not unuſual, that an
" army, without ever coming to an engagement, dwindles
" away by diſeaſe in one campaign."

[19] Rei militaris periti, plus quotidiana armorum exercitia and ſanitatem militum putaverunt prodeſſe, quam medicos. Ex quo intelligitur quanto ſtudioſius armorum artem docendus ſit ſemper exercitus, cum ei laboris conſuetudo & in caſtris ſanitatem, & in conflictu poſſit præſtare victoriam. *Vegetius, De re militari, lib. 3. cap. 2.* — [*In Engliſh thus*: "Our
" maſters of the art-military were of opinion, that daily
" exerciſe in arms contributed more to the health of the
" troops, than the ſkill of the phyſician: from which we
" may judge, what care ſhould be taken, to habituate the
" ſoldiers to the exerciſe of arms, to which they owe both
" their health in the camp, and their victory in the field."]

by conſtant exerciſe, and that a young horſe is unable to bear fatigue; for which reaſon he declares againſt young horſes for the ſervice of an army.

That the military branch of the Britiſh government is ſuſceptible of improvements, all the world will admit. To improve it, I have contributed my mite; which is humbly ſubmitted to the public, a judge from which there lies no appeal. It is ſubmitted in three views. The firſt is, Whether an army modelled as above, would not ſecure us againſt the boldeſt invader; the next, Whether ſuch an army be as dangerous to liberty, as an army in its preſent form; and the laſt, Whether it would not be a ſchool of induſtry and moderation to our people.

With reſpect to the firſt, we ſhould, after a few years, have not only an army of ſixty thouſand well-diſciplined troops, but the command of another army, equally numerous and equally well diſciplined. It is true, that troops inured to war have an advantage over troops that have not the ſame experience: but with aſſurance it may be pronounced impracticable, to land at once in Britain an army that can ſtand againſt 100,000 Britiſh ſoldiers well diſciplined, fighting, even the firſt time, for their country, and for their wives and children.

A war with France raiſes a panic on every ſlight threatening of an invaſion. The ſecurity afforded by the propoſed plan, would enable us to act offenſively at ſea, inſtead of being reduced

to keep our ſhips at home for guarding our coaſts. Would Britain any longer be obliged to ſupport her continental connexions? No ſooner does an European prince augment his army, or improve military diſcipline, than his neighbours, taking fright, muſt do the ſame. May not one hope, that by the plan propoſed, or by ſome ſuch, Britain would be relieved from jealouſy and ſolicitude about its neighbours?

This is a ſubject that deſerves deep attention, being of the utmoſt importance to Great Britain. The importance will clearly appear upon conſidering our late war with France, and our preſent war with France, Spain, and our American colonies, all united againſt us. France and Britain have made frequent attempts to diſtreſs one another by threatening an invaſion. But they are not upon an equal footing: England has many good harbours, not a ſingle fortified town; France has few harbours and many fortified towns. It is provided with a ſtanding army much greater in proportion than Britain; and above all, our capital is open to a ſudden attack by ſea, which the capital of France is not. Our Bank may in an inſtant be ruined, and public credit ſuffer a ſtupifying blow. We accordingly are terrified at the very thought of a flat-bottomed boat; and it is acknowledged on all hands, that we have no ſecurity againſt an invaſion but a ſuperior fleet. This unhappy ſituation has, in the preſent war, thrown our miniſters into great perplexity. Our field of action is America and the Weſt Indies, and yet

our grand fleet is locked up at home, while the French and Spaniards are at liberty to direct all their force to that part of the world. Our intelligence of the motions of our enemies muſt be always late, often uncertain; and in fact ſeveral capital blows have been ſtruck before we could give any reinforcement to our fleets in thoſe parts. Now if the military branch propoſed above had been adopted early during intervals of peace, our miniſtry would have been at liberty to employ our whole naval force where it could do the greateſt execution, and would ſoon have brought the war to an end.

With reſpect to the ſecond view, having long enjoyed the ſweets of a free government under a ſucceſſion of mild princes, we begin to forget that our liberties ever were in danger. But drowſy ſecurity is of all conditions the moſt dangerous; becauſe the ſtate may be overwhelmed before we even dream of danger. Suppoſe only, that a Britiſh King, accompliſhed in the art of war and beloved by his ſoldiers, heads his own troops in a war with France; and after more than one ſucceſsful campaign, gives peace to his enemy, on terms advantageous to his people: what ſecurity have we for our liberties, when he returns with a victorious army, devoted to his will? I am talking of a ſtanding army in its preſent form. Troops modelled as above would not be ſo obſequious: a number of the prime nobility and gentry ſerving without pay, who could be under no temptation to enſlave themſelves and their country,

would prove a firm barrier againſt the ambitious views of ſuch a prince. And even ſuppoſing that army to be totally corrupted, the prince could have little hope of ſucceſs againſt the nation ſupported by a veteran army, that might be relied on as champions for their country[29].

And as to the laſt view mentioned, the plan propoſed would promote induſtry and virtue, not only among the ſoldiers, but among the working people in general. To avoid hard labor and ſevere diſcipline in the army, men would be ſober and induſtrious at home; and ſuch untractable ſpirits as cannot be reached by the mild laws of a free government, would be effectually tamed by military law. At the ſame time, as ſobriety and innocence are conſtant attendants upon induſtry, the manners of our people would be much purified; a circumſtance of infinite importance to Britain. The ſalutary influence of the plan, would reach perſons in a higher ſphere. A young gentleman, whipt at ſchool, or falling behind at college, contracts an averſion to ſtudy, and flies to

[29] While it was a law in Rome that a man muſt ſerve ten years in the army before he could be admitted to a civil office, the republic had nothing to dread from their armies. But when by luxury the fatigues of war appeared unſupportable to men of condition, there was a neceſſity to fill the legions with the low and indigent, who followed their leaders implicitly, and were as ready to overturn the republic as to protect it. Hence the civil war between Marius and Sylla; and hence the overthrow of the republic by Julius Cæſar.

the army, where he is kept in countenance by numbers, idle and ignorant like himſelf. How many young men are thus daily ruined, who, but for the temptation of idleneſs and gaiety in the army, would have become uſeful ſubjects; In the plan under conſideration, the officers who ſerve for pay would be ſo few in number, and their proſpect of advancement ſo clear, that it would require much intereſt to be admitted into the army. None would be admitted but thoſe who have been regularly educated in every branch of military knowledge, and idle boys would be remitted to their ſtudies.

Here is diſplayed an agreeable ſcene with relation to induſtry. Suppoſing the whole threeſcore thouſand men to be abſolutely idle; yet, by doubling the induſtry of thoſe who remain, I affirm, that the ſum of induſtry would be much greater than before. And the ſcene becomes enchanting, when we conſider, that theſe threeſcore thouſand men, would not only be of all the moſt induſtrious, but be patterns of induſtry to others.

Upon concluſion of a foreign war, we ſuffer grievouſly by diſbanded ſoliders, who muſt plunder or ſtarve. The preſent plan is an effectual remedy: men accuſtomed to hard labor under ſtrict diſcipline, can never be in want of bread: they will be ſought for every where, even at higher than ordinary wages; and they will prove excellent maſters for training the peaſants to hard labor.

A man indulges emulation more freely in be-

half of his friend or his country, than of himself: emulation in the latter case is selfish; in the former, it is social. Does not that give us reason to hope, that the separating military officers into different classes will excite a laudable emulation, prompting individuals to exert themselves on every occasion for the honor of their class? Nor will such emulation, a virtuous passion, be any obstruction to private friendship between members of different classes. May it not be expected, that young officers of birth and fortune, zealous to qualify themselves at their own expense for serving their country, will cling for instruction to officers of experience, who have no inheritance but personal merit? Both find their account in that connexion: men of rank become adepts in military affairs, a valuable branch of education for them; and officers who serve for pay, acquire friends at court, who will embrace every opportunity of testifying their gratitude.

The advantages mentioned are great and extensive; and yet are not the only advantages. Will it be thought extravagant to hope, that the proposed plan would form a better system of education for young men of fortune, than hitherto has been known in Britain? Before pronouncing sentence against me, let the following considerations be weighed. Our youth go abroad to *see* the world in the literal sense; for to pierce deeper than eye-sight, cannot be expected of boys. They resort to gay courts, where nothing is found for imitation but pomp, luxury, dissembled virtues,

nd real vices: ſuch ſcenes make an impreſſion too deep on young men of a warm imagination. Our plan would be an antidote to ſuch poiſonous education. Suppoſing eighteen to be the earlieſt time for the army; here is an object held up to our youth of fortune, for rouſing their ambition: they will endeavour to make a figure, and emulation will animate them to excel: ſuppoſing a young man to have no ambition, ſhame however will puſh him on. To acquire the military art, to diſcipline their men, to direct the execution of public works, and to conduct other military operations, would occupy their whole time, and baniſh idleneſs. A young gentleman, thus guarded againſt the enticing vices and ſauntering follies of youth, muſt be ſadly deficient in genius, if, during his ſeven years ſervice, reading and meditation have been totally neglected. Hoping better things from our youth of fortune, I take for granted, that during their ſervice they have made ſome progreſs, not only in military knowledge, but in morals, and in the fine arts, ſo as at the age of twenty-five to be qualified for profiting, inſtead of being undone, by *ſeeing* the world [a].

[a] Whether hereditary nobility may not be neceſſary in a monarchical government to ſupport the King againſt the multitude, I take not on me to pronounce: but this I pronounce with aſſurance, that ſuch a conſtitution is unhappy with reſpect to education; and appears to admit no remedy; if it be not that above mentioned, or ſome ſuch. In fact, few of thoſe who received their education while they were the eldeſt ſons of Peers, have been duly qualified to manage public affairs.

Further, young men of birth and fortune, acquire indeed the ſmoothneſs and ſuppleneſs of court, with reſpect to their ſuperiors; but the reſtraint of ſuch manners, makes their temper break out againſt inferiors, where there is no reſtraint. Inſolence of rank, is not ſo viſible in Britain as in countries of leſs freedom; but it is ſufficiently viſible to require correction. To that end, no method promiſes more ſucceſs than military ſervice; as command and obedience alternately, are the beſt diſcipline for acquiring temper and moderation. Can pride and inſolence be more effectually ſtemmed, than to be under command of an inferior?

Still upon the important article of education. Where pleaſure is the ruling paſſion in youth, intereſt will be the ruling paſſion in age: the ſelfiſh principle is the foundation of both; the object only is varied. This obſervation is ſadly verified in Britain: our young men of rank, loathing an irkſome and fatiguing courſe of education, abandon themſelves to pleaſure. Trace theſe very men through the more ſettled part of life, and they will be found graſping at power and profit, by means of court-favor; with no regard to their country, and with very little to their friends. The education propoſed, holding up a tempting prize to virtuous ambition, is an excellent fence againſt a life of indolent pleaſure. A youth of fortune, engaged with many rivals in a train of public ſervice, acquires a habit of buſineſs; and as he is

conſtantly employed for the public, patriotiſm becomes his ruling paſſion [22].

A number of noblemen and gentlemen, led by ambition, did lately join in parliament to oppoſe the King's meaſures; and with true antipatriotic zeal ſtood up as champions for the American rebels. Charity leads me to think, that they would have acted very differently had they been trained in the military line, and conſequently been employed during a courſe of years in the ſervice of their country.

The advantages of a military education, ſuch as that propoſed, are not yet exhauſted. Under regular government promoting the arts of peace, ſocial intercourſe refines, and fondneſs for company increaſes in proportion. And hence it is, that the capital is crowded with every perſon who can afford to live there. A man of fortune, who

[22] The following portrait is ſketched by a good hand, (Madame Pompadour); and if it have any reſemblance, it ſets our plan in a conſpicuous light. The French nobleſſe, ſays that lady, ſpending their lives in diſſipation and idleneſs, know as little of politics as of economy. A gentleman hunts all his life in the country, or perhaps comes to Paris to ruin himſelf with an opera-girl. Thoſe who are ambitious to be of the miniſtry, have ſeldom any merit, if it be not in caballing and intrigue. The French nobleſſe have courage, but without any genius for war, the fatigue of a ſoldier's life being to them unſupportable. The King has been reduced to the neceſſity of employing two ſtrangers for the ſafety of his crown: had it not been for the Counts de Saxe and Lœwendahl, the enemies of France might have laid ſiege to Paris.

has no taſte but for a city-life, happens to be forced into the country by buſineſs: finding buſineſs and the country equally inſipid, he turns impatient, and flies to town, with a diſguſt at every rural amuſement. In France, the country has been long deſerted; in Britain the ſame fondneſs for a town-life is gaining ground. A ſtranger conſidering the immenſe ſums expended in England upon country-ſeats, would conclude, in appearance with great certainty, that the Engliſh ſpend moſt of their time in the country. But how would it ſurpriſe him to be told, not only that people of faſhion in England paſs little of their time there, but that the immenſe ſums laid out upon gardening and pleaſure-grounds, are the effect of vanity more than of taſte! In fact, ſuch embelliſhments are beginning to wear out of faſhion; appetite for ſociety leaving neither time nor inclination for rural pleaſures. If the progreſs of that diſeaſe can be ſtayed, the only means is military education. In youth laſting impreſſions are made; and men of fortune who take to the army, being confined moſtly to the country in prime of life, contract a liking for country-occupations and amuſements: which withdraw them from the capital, and contribute to the health of the mind, no leſs than of the body.

A military life is the only cure for a diſeaſe much more dangerous. Moſt men of rank are ambitious of ſhining in public. They may aſſume the patriot at the beginning; but it is a falſe appearance, for their patriotiſm is only a diſguiſe to

favor their ambition. A court-life becomes habitual and engroſſes their whole ſoul: the miniſter's nod is a law to them: they dare not diſobey; for to be reduced to a private ſtation, would to them be a cruel misfortune. This impotence of mind is in France ſo exceſſive, that to baniſh a courtier to his country-ſeat, is held an adequate puniſhment for the higheſt miſdemeanor. This ſort of ſlavery is gaining ground in Britain; and it ought to be dreaded, for ſcarce another circumſtance will more readily pave the way to abſolute power, if adverſe fate ſhall afflict us with an ambitious King. There is no effectual remedy to the ſervility of a court-life, but the military education here recommended.

A military education would contribute equally to moderation in ſocial enjoyments. The pomp, ceremony, and expenſe, neceſſary to thoſe who adhere to a court, and live always in public, are not a little fatiguing and oppreſſive. Man is naturally moderate in his deſire of enjoyment; and it requires much practice to make him bear exceſs without ſatiety and diſguſt. The pain of exceſs, prompts men of opulence to paſs ſome part of their time in a ſnug retirement, where they live at eaſe, free from pomp and ceremony. Here is a retirement, which can be reached without any painful circuit; a port of ſafety and of peace, to which we are piloted by military education, avoiding every dangerous rock, and every fatiguing agitation.

Reflecting on the advantages of military education above diſplayed, is it fooliſh to think, that

our plan might produce a total alteration of manners in our youth of birth and fortune? the idler, the gameſter, the profligate, compared with our military men, would make a deſpicable figure; ſhame, not to talk of pride, would compel them to reform.

How conducive to good government might the propoſed plan be, in the hands of a virtuous king, ſupported by a public-ſpirited miniſtry! In the preſent courſe of advancement, a youth of quality who aſpires to ſerve his country in a civil employment, has nothing to rely on but parliamentary intereſt. The military education propoſed, would afford him opportunity to improve his talents, and to convince the world of his merit. Honor and applauſe thus acquired, would entitle him to demand preferment; and he ought to be employed, not only as deſerving, but as an encouragement to others. Frequent inſtances of neglecting men who are patronized by the public, might perhaps prove dangerous to a Britiſh miniſter.

If I have not all this while been dreaming, here are diſplayed illuſtrious advantages of the military education propoſed. Fondneſs for the ſubject excites me to prolong the entertainment; and I add the following reflection on the education of ſuch men as are diſpoſed to ſerve in a public ſtation. The ſciences are mutually connected: a man cannot be perfect in any one, without being in ſome degree acquainted with every one. The ſcience of politics in particular, being not a little intricate,

annot be acquired in perfection by any one whoſe tudies have been confined to a ſingle branch, whether relative to peace or to war. The Duke f Marlborough made an eminent figure in the abinet, as well as in the field; and ſo did equally he illuſtrious Sully, who may ſerve as a model o all miniſters. The great aim in modern politics , to ſplit government into the greateſt number oſſible of departments, truſting nothing to ge- ius. China affords ſuch a government in perfec- ion. National affairs are there ſo ſimplified by di- iſion, as to require ſcarce any capacity in the Mandarins. Theſe officers, having little occaſion or activity either of mind or of body, ſink down nto ſloth and ſenſuality: motives of ambition or f fame make no impreſſion: they have not even he delicacy to bluſh when they err: and as no uniſhment is regarded but what touches the per- on or the purſe, it is not unuſual to ſee a Man- arin beaten with many ſtripes, ſometimes for a ery ſlight tranſgreſſion. Let arts be ſubdivided nto many parts: the more ſubdiviſions the better. But I venture to pronounce, that no man ever did, or ever will, make a capital figure in the govern- ment of a ſtate, whether as a judge, a general, r miniſter, whoſe education is rigidly confined o one ſcience".

" Phocion is praiſed by ancient writers, for ſtruggling gainſt an abuſe that had crept into his country of Attica, hat of making war and politics different profeſſions. In mitation of Ariſtides and of Pericles, he ſtudied both equally.

Senſible I am that the foregoing plan is in ſe-
veral reſpects imperfect; but if it be ſound at bot-
tom, poliſh and improvement are eaſy operations.
My capital aim has been, to obviate the objec-
tions that preſs hard againſt every military plan
hitherto embraced or propoſed. A ſtanding army
in its preſent form, is dangerous to liberty; and
but a feeble bulwark againſt ſuperior force. On
the other hand, a nation in which every ſubject
is a ſoldier, muſt not indulge any hopes of be-
coming powerful by manufactures and commerce:
it is indeed vigorouſly defended, but is ſcarce
worthy of being defended. The golden mean of
rotation and conſtant labor in a ſtanding army,
would diſcipline multitudes for peace as well as
for war. And a nation ſo defended would be
invincible.

## SKETCH X.

### *Public Police with reſpect to the Poor.*

AMONG the induſtrious nations of Europe, regulations for the poor make a conſiderable branch of public police. Theſe regulations are ſo multiplied and ſo anxiouſly framed, as to move one to think, that there cannot remain a ſingle perſon under a neceſſity to beg. It is however a ſad truth, that the diſeaſe of poverty, inſtead of being eradicated, has become more and more inveterate.

England

England in particular overflows with beggars, though in no other country are the indigent ſo amply provided for. Some radical defect there muſt be in theſe regulations, when, after endleſs attempts to perfect them, they prove abortive. Every writer, diſſatisfied with former plans, fails not to produce one of his own; which, in its turn, meets with as little approbation as any of the foregoing.

The firſt regulation of the ſtates of Holland concerning the poor, was in the year 1614 prohibiting all begging. The next was in the year 1649. "It is enacted, That every town, village, or "pariſh, ſhall maintain its poor out of the income of its charitable foundations and collections. And in caſe theſe means fall ſhort, the "magiſtrates ſhall maintain them at the general "expenſe of the inhabitants, as can moſt conveniently be done: Provided always, that the "poor be obliged to work either to merchants, "farmers, or others, for reaſonable wages, in "order that they may, as far as poſſible, be ſupported that way; provided alſo, that they be "indulged in no idleneſs nor inſolence." The advice or inſtruction here given to magiſtrates, is ſenſible: but falls ſhort of what may be termed a *law*, the execution of which can be enforced in a court of juſtice.

In France, the precarious charity of monaſteries proving ineffectual, a hoſpital was erected in the city of Paris *anno* 1656, having different apartments; one for the innocent poor, one for putting

vagabonds to hard labor, one for foundlings, and one for the ſick and maimed; with certain funds for defraying the expenſe of each, which produce annually much about the ſame ſum. In imitation of Paris, hoſpitals of the ſame kind were erected in every great town of the kingdom.

The Engliſh began more early to think of their poor; and in a country without induſtry, the neceſſity probably aroſe more early. The firſt Engliſh ſtatute bears date in the year 1496, directing, "That every beggar unable to work, ſhall reſort "to the hundred where he laſt dwelt or was born; "and there ſhall remain, upon pain of being ſet "in the ſtocks three days and three nights, with "only bread and water, and then ſhall be put out of "town." This was a law aginſt vagrants, for the ſake of order. There was little occaſion, at that period, to provide for the innocent poor; their maintenance being a burden upon monaſteries. But monaſteries being put down by Henry VIII. ſtatute, 22d year of his reign, cap. 12. empowered the juſtices of every county, to licenſe poor aged and impotent perſons to beg within a certain diſtrict; thoſe who beg without it, to be whipt, or ſet in the ſtocks. In the firſt year of Edward VI. cap. 3. a ſtatute was made in favor of impotent, maimed, and aged perſons, that they ſhall have convenient houſes provided for them, in the cities or towns where they were born, or where they reſided for three years, to be relieved by the *willing and charitable diſpoſition* of the pariſhioners. By 2d and 3d Philip and Mary, cap. 5. the former ſtatutes of Henry VIII.

and Edward VI. were confirmed, of gathering weekly relief for the poor by charitable collections. "A man "licenſed to beg, ſhall wear a badge on his breaſt "and back openly."

The firſt compulſory ſtatute was 5° Eliſab. cap. 3. empowering juſtices of peace to raiſe a weekly ſum for the poor, by taxing ſuch perſons as obſtinately refuſe to contribute, after repeated admonitions from the pulpit. In the next ſtatute, 14° Eliſab. cap. 5 a bolder ſtep was made, empowering juſtices to tax the inhabitants of every pariſh, in a weekly ſum for their poor. And taxations for the poor being now in ſome degree familiar, the remarkable ſtatutes, 39° Eliſab. cap. 3. and 43° Eliſab cap. 2. were enacted, which are the groundwork of all the ſubſequent ſtatutes concerning the poor. By theſe ſtatutes, certain houſeholders, named by the juſtices, are, in conjunction with the church-wardens, appointed overſeers for the poor; and theſe overſeers, with conſent of two juſtices, are empowered to tax the pariſh in what ſums they think proper, for maintaining the poor.

Among a people ſo tenacious of liberty as the Engliſh are, and ſo impatient of oppreſſion, is it not ſurpriſing, to find a law, that without ceremony ſubjects individuals to be taxed at the arbitrary will of men, who ſeldom either by birth or education deſerve that important truſt; and without even providing any effectual check againſt embezzlement? At preſent, a Britiſh parliament would reject with ſcorn ſuch an abſurd plan; and yet, being familiarized to it, they never ſeriouſly

have attempted a repeal. We have been always on the watch to prevent the ſovereign's encroachments, eſpecially with regard to taxes: but as pariſh-officers are low perſons who inſpire no dread, we ſubmit to have our pockets picked by them, almoſt without repining. There is provided, it is true, an appeal to the general ſeſſions for redreſſing inequalities in taxing the pariſhioners. But it is no effectual remedy: artful overſeers will not overrate any man ſo groſsly as to make it his intereſt to complain, conſidering that theſe overſeers have the poor's money to defend themſelves with. Nor will the general ſeſſions readily liſten to a complaint, that cannot be verified but with much time and trouble. If the appeal have any effect, it makes a ſtill greater inequality, by relieving men of figure at the expenſe of their inferiors, who muſt ſubmit, having little intereſt to obtain redreſs.

The Engliſh plan, beſide being oppreſſive, is groſsly unjuſt. If it ſhould be reported of ſome diſtant nation, that the burden of maintaining the idle and profligate, is laid upon the frugal and induſtrious, who work hard for a maintenance to themſelves; what would one think of ſuch a nation? Yet this is literally the caſe of England. I ſay more: the plan is not only oppreſſive and unjuſt, but miſerably defective in the checking of maladminiſtration. In fact, great ſums are levied beyond what the poor receive: it requires briguing to be named a church-warden; the nomination, in London eſpecially, gives him credit at once; and however meagre at the commencement of his of-

fice, he is round and plump before it ends. To wax fat and rich by robbing the poor! Let us turn our eyes from a ſcene ſo horrid [r].

Inequality in taxing, and embezzlement of the money levied, which are notorious, poiſon the minds of the people: and impreſs them with a notion, that all taxes raiſed by public authority are ill managed.

Theſe evils are great, and yet are but ſlight compared with what follow. As the number of poor in England, as well as the expenſe of maintenance, are increaſing daily; proprietors of land, in order to be relieved of a burden ſo grievous, drive the poor out of the pariſh, and prevent all perſons from ſettling in it who are likely to become a burden: cottages are demoliſhed, and marriage obſtructed. Influenced by the preſent evil, they look not forward to depopulation, nor to the downfal of huſbandry

[r] In the pariſh of St George, Hanover Square, a great reform was made ſome years ago. Inhabitants of figure, not excepting men of the higheſt rank, take it in turn to be church-wardens; which has reduced the poor-rates in that pariſh to a trifle. But people, after acquiring a name, ſoon tire of drudging for others. The drudgery will be left to low people as formerly, and the tax will again riſe as high in that pariſh as in others. The poor-rates in Dr Davenant's time, were about L. 700,000 yearly. In the year 1764, they amounted to L. 2,200,000. In the year 1773, they amounted to L. 3,000,000, equal to ſix ſhillings in the pound land-tax.

and manufactures by ſcarcity of hands. Every pariſh is in a ſtate of war with every other pariſh; concerning *pauper*-ſettlements and removals [a].

At an average, England by its various products can maintain more than its preſent inhabitants. How comes it then that it is not more populous, according to the noted obſervation, that wherever there is food men will be found? I can diſcover no cauſe but the poor's rates, which make the people thoughtleſs and idle. Idleneſs begets profligacy; and the profligate avoid loading themſelves with wives and children.

The price of labor is generally the ſame in the different ſhires of Scotland, and in the different pariſhes. A few exceptions are occaſioned by the neighbourhood of a great town, or by ſome extenſive manufacture, that requires many hands. In

[a] In an addreſs by Mr Greaves to both Houſes of Parliament there is the following paſſage: "It happens to be the "miſtaken policy of moſt of our very wiſe pariſh-officers, "that as ſoon as a young man is married, a ſtate of life "which is the moſt likely to make him a good member of "ſociety, to endeavour to get him removed to the place of "his legal ſettlement, out of pretence that he may ſoon "have a family, which may poſſibly bring a charge upon "the pariſh. Young men, intimidated by frequent examples "of ſuch cruel treatment, are unwilling to marry; and "this leads them frequently to debauch young women, "and then leave them with child in a very helpleſs con-"dition. Thus they get into an unſettled and debauched "way of life, acquire a habit of idleneſs, and become a "burden upon the public."

Scotland the price of labor reſembles water, which always levels itſelf: if high in any one corner, an influx of hands brings it down. The price of labor varies in every pariſh of England: a laborer who has gained a ſettlement in a pariſh, on which he depends for bread when he inclines to be idle, dares not remove to another pariſh where wages are higher, fearing to be cut out of a ſettlement altogether. England is in the ſame condition with reſpect to labor, that France lately was with reſpect to corn; which, however plentiful in one province, could not be exported to ſupply the wants of another. The pernicious effect of the latter with reſpect to food, are not more obvious, than of the former with reſpect to manufactures.

Engliſh manufactures labor under a ſtill greater hardſhip than inequality of wages. In a country where there is no fund for the poor but what nature provides, the laborer muſt be ſatisfied with ſuch wages as are cuſtomary: he has no reſource; for pity is not moved by idleneſs. In England, the laborers command the market: if not ſatisfied with cuſtomary wages, they have a tempting reſource which is, to abandon work, altogether, and to put themſelves on the pariſh. Labor is much cheaper in France than in England: ſeveral plauſible reaſons have been aſſigned; but in my judgment, the difference ariſes from the poor-laws. In England, every man is entitled to be idle; becauſe every idler is entitled to a maintenance. In France, the funds allotted for the poor, yield the ſame ſum annually: that ſum is always preoccupied; and France, with

reſpect to all but thoſe on the liſt, is a nation that has no fund provided by law for the poor.

Depopulation, inequality in the price of labor, and extravagant wages, are deplorable evils. But the Engliſh poor-laws are productive of evils ſtill more deplorable: they are ſubverſive both of morality and induſtry. This is a heavy charge, but no leſs true than heavy. Fear of want is the only effectual motive to induſtry with the laboring poor: remove that fear, and they ceaſe to be induſtrious. The ruling paſſion of thoſe who live by bodily labor, is to ſave a pittance for their children, and for ſupporting themſelves in old age: ſtimulated by deſire of accompliſhing theſe ends, they are frugal and induſtrious; and the proſpect of ſucceſs is to them a continual feaſt. Now, what worſe can malice invent againſt ſuch a man, under color of friendſhip, than to ſecure bread to him and his children whenever he takes a diſlike to work; which effectually deadens his ſole ambition, and with it his honeſt induſtry? Relying on the certainty of a proviſion againſt want, he relaxes gradually till he ſinks into idleneſs: idleneſs leads to profligacy: profligacy begets diſeaſes; and the wretch becomes an object of public charity before he has run half his courſe. Such are the genuine effects of the Engliſh tax for the poor, under a miſtaken notion of charity. There never was known in any country, a ſcheme for the poor more contradictory to ſound policy. Might it not have been foreſeen, that to a groveling creature, who has no ſenſe of honor and ſcarce any of ſhame, the certainty

of maintenance would prove an irreſiſtible temptation to idleneſs and debauchery? The poor-houſe at Lyons contained originally but forty beds, of which twenty only were occupied. The eight hundred beds it contains at preſent, are not ſufficient for thoſe who demand admittance. A premium is not more ſucceſsful in any caſe, than where given to promote idleneſs [1]. A houſe for the poor was

[1] A London alderman named *Harper*, who was cotemporary with James I. or his ſon Charles, bequeathed ten or twelve acres of meadow-ground in the pariſh of St Andrew's, Holborn, London, for the benefit of the poor in the town of Bedford. This ground has been long covered with houſes, which yield from L. 4000 to L. 5000 yearly. That ſum is laid out upon charity-ſchools, upon defraying the expenſe of apprenticeſhips, and upon a ſtock to young perſons when they marry; an encouragement that attracts to the town of Bedford great numbers of the lower claſſes. So far well; but mark the conſequence. That encouragement relaxes the induſtry of many, and adds greatly to the number of the poor. Hence it is, that in few places of England does the poor's rate amount ſo high as in the town of Bedford. An extenſive common in the pariſh of Charley, Suſſex, is the chief cauſe of an extravagant aſſeſſment for the poor, no leſs than nine ſhillings in the pound of rack rent. Give a poor man acceſs to a common for feeding two or three cows, you make him idle by a dependence upon what he does not labor for. The town of Largo in Fife has a ſmall hoſpital, erected many years ago by a gentleman of the name of Wood; and confined by him to the poor of his own name. That name being rare in the neighbourhood, acceſs to the hoſpital is eaſy. One man in particular is entertained there, whoſe father, grandfather, and great-grandfather, enjoyed ſucceſſively the ſame benefit; every one of whom probably would have been uſeful members of ſociety, but for that temptation to idleneſs.

erected in a French village, the revenue of which by economy became conſiderable. Upon a repreſentation by the curate of the pariſh that more beds were neceſſary, the proprietor undertook the management. He ſold the houſe, with the furniture; and to every proper object of charity, he ordered a moderate proportion of bread and beef. The poor and ſick were more comfortably lodged at home, than formerly in the poor-houſe. And by that management, the pariſh-poor decreaſed, inſtead of increaſing as at Lyons. How few Engliſh manufacturers labor the whole week, if the work of four or five days afford them maintenance? Is not this a demonſtration, that the malady of idleneſs is widely ſpread? In Briſtol, the pariſh-poor twenty years ago did not exceed four thouſand: at preſent, they amount to more than ten thouſand. But as a malady, when left to itſelf, commonly effectuates its own cure; ſo it will be in this caſe: when, by prevailing idleneſs, every one without ſhame claims pariſh-charity, the burden will become intolerable, and the poor will be left to their ſhifts.

The immoral effects of public charity are not confined to thoſe who depend on it, but extend to their children. The conſtant anxiety of a laboring man to provide for his iſſue, endears them to him. Being relieved of that anxiety by the tax for the poor, his affection cools gradually, and he turns at laſt indifferent about them. Their independence, on the other hand, weans them from their duty to him. And thus, affection between parent and child, which is the corner-ſtone of

ſociety, is in a great meaſure obliterated among the laboring poor. In a plan publiſhed by the Earl of Hilſborough, an article is propoſed to oblige parents to maintain their indigent children, and children to maintain their indigent parents. Natural affection muſt be at a low ebb, where ſuch a regulation is neceſſary: but it is neceſſary, at leaſt in London, where it is common to ſee men in good buſineſs neglecting their aged and diſeaſed parents, for no better reaſon than that the pariſh is bound to find them bread: *Proh tempora, proh mores!*

The immoral effects of public charity ſpread ſtill wider. It fails not to extinguiſh the virtue of charity among the rich; who never think of giving charity, when the public undertakes for all. In a ſcheme publiſhed by Mr Hay, one article is, to raiſe a ſtock for the poor by voluntary contributions, and to make up the deficiency by a pariſh-tax. Will individuals ever contribute, when it is not to relieve the poor, but to relieve the pariſh? Every hoſpital has a poor-box, which ſeldom produces any thing *. The great comfort of ſociety is aſſiſtance in time of need; and its firmeſt cement is, the beſtowing and receiving kindly offices, eſpecially in diſtreſs. Now to unhinge or ſuſpend the exerciſe of charity by rendering it unneceſſary, relaxes every

* One exception I am fond to mention. The poor-box of the Edinburgh-Infirmary was neglected two or three years, little being expected from it. When opened, L. 74 and a fraction was found in it; contributed probably by the lower ſort, who were aſhamed to give their mite publicly.

ſocial virtue by ſupplanting the chief of them. The conſequence is diſmal: exerciſe of benevolence to the diſtreſſed is our firmeſt guard againſt the encroachments of ſelfiſhneſs: if that guard be withdrawn, ſelfiſhneſs will prevail, and become the ruling paſſion. In fact, the tax for the poor has contributed greatly to the growth of that groveling paſſion, ſo conſpicuous at preſent in England.

Engliſh authors who turn their thoughts to the poor, make heavy complaints of decaying charity, and increaſing poverty: never once dreaming, that theſe are the genuine effects of a legal proviſion for the poor; which on the one hand eradicates the virtue of charity, and on the other is a violent temptation to idleneſs. Wonderfully ill contrived muſt the Engliſh charity-laws be, when their conſequences are to ſap the foundation of voluntary charity; to deprive the laboring poor of their chief comfort, that of providing for themſelves and children; to relax mutual affection between parent and child; and to reward, inſtead of puniſhing, idleneſs and vice. Conſider whether a legal proviſion for the poor, be ſufficient to atone for ſo many evils.

No man had better opportunity than Fielding to be acquainted with the ſtate of the poor: let us liſten to him. "That the poor are a very great "burden, and even a nuiſance to the kingdom; "that the laws for relieving their diſtreſſes and "reſtraining their vices, have not anſwered; and "that they are at preſent very ill provided for "and much worſe governed, are truths which

" every one will acknowledge. Every perſon who
" hath property, muſt feel the weight of the tax
" that is levied for the poor; and every perſon of
" underſtanding, muſt ſee how abſurdly it is applied.
" So uſeleſs indeed is this heavy tax, and ſo wretch-
" ed its diſpoſition, that it is a queſtion, whether
" the poor or rich are actually more diſſatisfied;
" ſince the plunder of the one ſerves ſo little to
" the real advantage of the other; for while a
" million yearly is raiſed among the rich, many
" of the poor are ſtarved; many more languiſh in
" want and miſery; of the reſt, numbers are found
" begging or pilfering in the ſtreets to-day, and
" tomorrow are locked up in gaols and Bridewells.
" If we were to make a progreſs through the
" outſkirts of the metropolis and look into the
" habitations of the poor, we ſhould there behold
" ſuch pictures of human miſery, as muſt move
" the compaſſion of every heart that deſerves the
" name of human. What indeed muſt be his com-
" poſition, who could ſee whole families in want
" of every neceſſary of life, oppreſſed with hunger,
" cold, nakedneſs, and filth; and with diſeaſes,
" the certain conſequence of all theſe! The ſuf-
" ferings indeed of the poor are leſs known than
" their miſdeeds; and therefore we are leſs apt to
" pity them. They ſtarve, and freeze, and rot,
" among themſelves; but they beg, and ſteal, and
" rob, among their betters. There is not a pariſh
" in the liberty of Weſtminſter, which doth not
" raiſe thouſands annually for the poor; and there
" is not a ſtreet in that liberty, which doth not

" ſwarm all day with beggars, and all night with " thieves."

There is not a ſingle beggar to be ſeen in Pennſylvania. Luxury and idleneſs have got no footing in that happy country; and thoſe who ſuffer by misfortune, have maintenance out of the public treaſury. But luxury and idleneſs cannot for ever be excluded; and when they prevail, this regulation will be as pernicious in Pennſylvania, as the poor-rates are in Britain.

Of the many propoſals that have been publiſhed for reforming the poor-laws, not one has pierced to the root of the evil. None of the authors entertain the ſlighteſt doubt of a legal proviſion being neceſſary, though all our diſtreſſes ariſe evidently from that very cauſe. Travellers complain, of being infeſted with an endleſs number of beggars in every Engliſh town; a very different ſcene from what they meet with in Holland or Switzerland. How would it ſurpriſe them to be told, that this proceeds from an overflow of charity in the good people of England!

Few inſtitutions are more tickliſh than thoſe of charity. In London, common proſtitutes are treated with ſingular humanity: a hoſpital for them when pregnant, diſburdens them of their load, and nurſes them till they be again fit for buſineſs: another hoſpital cures them of the veneral diſeaſe: and a third receives them with open arms, when, inſtead of deſire, they become objects of averſion. Would not one imagine, that theſe hoſpitals have been erected for encouraging proſtitution? They un-

oubtedly have that effect, though far from being tended. Mr Stirling, ſuperintendant of the Edinurgh poor-houſe, deſerves a ſtatue for a ſcheme e contrived to reform common proſtitutes. A umber of them were confined in a houſe of correcon, on a daily allowance of three pence; and ven part of that ſmall pittance was embezzled by e ſervants of the houſe. Pinching hunger did not eform their manners; for being abſolutely idle, ey encouraged each other in vice, waiting imatiently for the hour of deliverance. Mr Stirling, ith conſent of the magiſtrates, removed them to clean houſe; and inſtead of money, which is apt be ſquandered, appointed for each a pound of at-meal daily, with ſalt, water, and fire for ooking. Relieved now from diſtreſs, they longed or comfort: what would they not give for milk r ale? Work, ſays he, will procure you plenty. o ſome who offered to ſpin, he gave flax and heels, engaging to pay them half the price of eir yarn, retaining the other half for the materials urniſhed. The ſpinners earned about nine pence weekly, a comfortable addition to what they had efore. The reſt undertook to ſpin, one after nother; and before the end of the firſt quarter, ey were all of them intent upon work. It was branch of his plan, to ſet free ſuch as merited at favor; and ſome of them appeared ſo thoroughly eformed, as to be in no danger of a relapſe.

The ingenious author of *The Police of France*, who wrote in the year 1753, obſerves, that notwithſtanding the plentiful proviſion for the poor

in that kingdom, mentioned above, there was a general complaint of the increaſe of beggars and vagrants; and adds, that the French political writers, diſſatisfied with their own plan, had preſented ſeveral memorials to the miniſtry, propoſing to adopt the Engliſh parochial aſſeſſments, as greatly preferable. This is a curious fact; for at that very time, people in London, no leſs diſſatisfied with theſe aſſeſſments, were writing pamphlets in praiſe of the French hoſpitals. One thing is certain, that no plan hitherto invented, has given ſatisfaction. Whether an unexceptionable plan is at all poſſible, ſeems extremely doubtful.

In every plan for the poor that I have ſeen, workhouſes make one article; to provide work for thoſe who are willing, and to make thoſe work who are unwilling. With reſpect to the former, men need never be idle in England for want of employment; and they always ſucceed the beſt at the employment they chuſe for themſelves. With reſpect to the latter, puniſhment will not compel a man to labor: he may aſſume the appearance, but will make no progreſs; and the pretext of ſickneſs or weakneſs is ever at hand for an excuſe. The only compulſion to make a man work ſeriouſly, is fear of want.

A hoſpital for the ſick, for the wounded, and for the maimed, is a right eſtabliſhment; being productive of good, without doing any harm. Such a hoſpital ſhould depend partly on voluntary charity; to procure which, a conviction of its being well managed, is neceſſary. Hoſpitals that have a

ſufficient

sufficient fund of their own, and that have no dependence on the good will of others, are commonly ill managed.

Lies there any objection against a workhouse, for training to labor, destitute orphans, and begging children? It is an article in Mr Hay's plan, that the workhouse should relieve poor families of all their children above three. This has an enticing appearance, but is unsound at bottom. Children require the tenderness of a mother, during the period of infantine diseases; and are far from being safe in the hands of mercenaries, who study nothing but their own ease and interest. Would it not be better, to distribute small sums from time to time among poor families overburdened with children, so as to relieve them from famine, not from labor? And with respect to orphans and begging children, I incline to think, that it would be a more salutary measure, to encourage mechanics, manufacturers, and farmers above all, to educate such children. A premium for each, the half in hand, and the other half when they can work for themselves, would be a proper encouragement. The best regulated orphan hospital I am acquainted with, is that of Edinburgh. Orphans are taken in from every corner, provided only they be not under the age of seven, nor above that of twelve: under seven, they are too tender for a hospital; above twelve their relations can find employment for them. Beside the being taught to read and write, they are carefully instructed in some art, that may afford them comfortable subsistence.

No man ever called in queſtion the utility of the marine ſociety; which will reflect honor on the members as long as we have a navy to protect us: they deſerve a rank above that of gartered knights. That inſtitution is the moſt judicious exertion of charity and patriotiſm, that ever exiſted in any country.

A ſort of hoſpital for ſervants who for twenty years have faithfully adhered to the ſame maſter, would be much to my taſte; with a few adjoining acres for a kitchen-garden. The fund for purchaſing, building, and maintenance, muſt be raiſed by contribution; and none but the contributors ſhould be entitled to offer ſervants to the houſe. By ſuch encouragement, a malady would be remedied, that of wandering from maſter to maſter for better wages, or eaſier ſervice; which ſeldom fail to corrupt ſervants. They ought to be comfortably provided for, adding to the allowance of the houſe what pot-herbs are raiſed by their own labor. A number of virtuous men thus aſſociated, would end their days in comfort; and the proſpect of attaining a ſettlement ſo agreeable, would form excellent ſervants. How advantageous would ſuch a hoſpital prove to huſbandry in particular! But I confine this hoſpital to ſervants who are ſingle. Men who have a family will be better provided ſeparately.

Of all the miſchiefs that have been engendered by over-anxiety about the poor, none have proved more fatal than a foundling-hoſpital. They tend to cool affection for children, ſtill more effectually than the Engliſh pariſh-charity. At every occaſional

pinch for food, away goes a child to the hoſpital; and parental affection among the lower ſort turns ſo languid, that many who are in no pinch, relieve themſelves of trouble by the ſame means. It is affirmed, that of the children born annually in Paris, about a third part are ſent to the foundling-hoſpital. The Paris almanac for the year 1768, mentions, that there were baptized 18,576 infants, of whom the foundling-hoſpital received 6025. The ſame almanac for the year 1773 bears, that of 18,518 children born and baptized, 5989 were ſent to the foundling-hoſpital. The proportion originally was much leſs; but vice advances with a ſwift pace. How enormous muſt be the degeneracy of the Pariſian populace, and their want of parental affection!

Let us next turn to infants ſhut up in this hoſpital. Of all animals, infants of the human race are the weakeſt: they require a mother's affection to guard them againſt numberleſs diſeaſes and accidents; a wiſe appointment of Providence to connect parents and children in the cloſeſt union. In a foundling-hoſpital, there is no fond mother to watch over her tender babe; and the hireling nurſe has no fondneſs but for her own little profit. Need we any other cauſe for the deſtruction of infants in a foundling-hoſpital, much greater in proportion than of thoſe under the care of a mother? And yet there is another cauſe equally potent, which is corrupted air. What Mr Hanway obſerves upon parish workhouſes, is equally applicable to a foundling-hoſpital. "To attempt," ſays he, "to

"nouriſh an infant in a workhouſe, where a "number of nurſes are congregated into one room, "and conſequently the air become putrid, I will "pronounce, from intimate knowledge of the "ſubject, to be but a ſmall remove from ſlaughter, "*for the child muſt die.*" It is computed, that of the children in the London foundling-hoſpital, the half do not live a year. It appears by an account given in to parliament, that the money beſtowed on that hoſpital from its commencement till December 1757 amounted to L. 166,000; and yet during that period, 105 perſons only were put out to do for themſelves. Down then with foundling-hoſpitals, more noxious than peſtilence or famine. An infant expoſed at the door of a dwelling-houſe, muſt be taken up: but in that caſe, which ſeldom happens, the infant has a better chance for life with a hired nurſe than in a hoſpital; and a chance perhaps little worſe, bad as it is, than with an unnatural mother. I approve not indeed of a quarterly payment to ſuch a nurſe: would it not do better to furniſh her bare maintenance for three years; and if the child be alive at the end of that time, to give her a handſome addition?

A houſe of correction is neceſſary for good order; but belongs not to the preſent eſſay, which concerns maintenance of the poor, not puniſhment of vagrants. I ſhall only by the way borrow a thought from Fielding, that faſting is the proper puniſhment of profligacy, not any puniſhment that is attended with ſhame. Puniſhment, he obſerves, that deprives

a man of all ſenſe of honor, never will contribute to make him virtuous.

Charity-ſchools may have been proper when few could read, and fewer write; but theſe arts are now ſo common, that in moſt families children may be taught to read at home, and to write in a private ſchool at little expenſe. Charity-ſchools at preſent are more hurtful than beneficial: young perſons who continue there ſo long as to read and write fluently, become too delicate for hard labor, and too proud for ordinary labor. Knowledge is a dangerous acquiſition to the laboring poor: the more of it that is poſſeſſed by a ſhepherd, a ploughman, or any drudge, the leſs ſatisfaction he will have in labor. The only plauſible argument for a charity-ſchool, is, "That children of the "laboring poor are taught there the principles of "religion and of morality, which they cannot "acquire at home." The argument would be invincible, if without regular education we could have no knowledge of theſe principles. But Providence has not left man in a ſtate ſo imperfect: religion and morality are ſtamped on his heart; and none can be ignorant of them, who attend to their own perceptions. Education is indeed of uſe to open ſuch perceptions, and is of ſingular uſe to thoſe who have time for reading and thinking: but education in a charity-ſchool is ſo ſlight, as to render it doubtful whether it be not more hurtful by forſtalling induſtry, than advantageous by conveying inſtruction. The natural impreſſions of religion and morality, if not obſcured by vitious habits,

are sufficient for good conduct: preserve a m
from vice by constant labor, and he will not
deficient in his duty either to God or to m
Hesiod, an ancient and respectable poet, says, t
God hath placed labor as a guard to virtue. M
integrity accordingly will be found among a numb
of industrious poor, taken at random, than amo
the same number in any other class.

I heartily approve every regulation that tends
prevent idleness. Chief Justice Hale says, "Th
"prevention of poverty and idleness would do mo
"good than all the gibbets, whipping-posts, a
"gaols in the kingdom." In that view, gamin
houses ought to be heavily taxed, as well as hor
racing, cock-fighting, and all meetings that e
courage idleness. The admitting low people t
vote for members of parliament, is a source o
idleness, corruption, and poverty. The same pr
-vilege is common to every small parliament-borough
Now have I any difficulty to pronounce, that th
admitting the populace to vote in the election o
a parish-minister, a frequent practice in Scotland,
is productive of the same pernicious effects.

What then is to be the result of the foregoing
inquiry? Is it from defect of invention that a good
legal establishment for the poor is not yet discovered?
or is it impracticable to make any legal establishment
that is not fraught with corruption? I incline to the
latter, for the following reason, no less obvious
than solid, That in a legal establishment for the
poor, no distinction can be made between virtue
and vice: and consequently that every such esta-

blishment must be a premium for idleness. And where is the necessity, after all, of any public establishment? By what unhappy prejudice have people been led to think, that the Author of our nature, so beneficent to his favorite man in every other respect, has abandoned the indigent to famine and death, if municipal law interpose not? We need but inspect the human heart to be convinced, that persons in distress are his peculiar care. Not only has he made it our duty to afford them relief, but has superadded the passion of pity to enforce the performance of that duty. This branch of our nature fulfils in perfection all the salutary purposes of charity, without admitting any one of the evils that a legal provision is fraught with. The contrivance, at the same time, is extremely simple: it leaves to every man the objects as well as measure of his charity. No man esteems it a duty to relieve wretches reduced to poverty by idleness and profligacy: they move not our pity; nor do they expect any good from us. Wisely therefore is it ordered by Providence, that charity should in every respect be voluntary; to prevent the idle and profligate from depending on it for support.

This plan is in many respects excellent. The exercise of charity, when free from compulsion, is highly pleasant. There is indeed little pleasure where charity is rendered unnecessary by municipal law; but were that law laid aside, the gratification of pity would become one of our sweetest enjoyments. Charity, like other affections, is envigorated by exercise, and no less enfeebled by disuse. Providence

withal hath scattered benevolence among the sons of men with a liberal hand; and notwithstanding the obstruction of municipal law, seldom is there found one so obdurate, as to resist the impulse of compassion, when a proper object is presented. In a well-regulated government, promoting industry and virtue, the persons who need charity are not many; and such persons may with assurance depend on the charity of their neighbours.

It may at the same time be boldly affirmed, that those who need charity, would be more comfortably provided for by the plan of Providence, than by any legal establishment. Creatures loathsome by disease or nastiness, affect the air in a poor-house, and have little chance for life, without more care and kindness than can be expected from servants rendered callous by continual scenes of misery. Consider, on the other hand, the consequences of voluntary charity, equally agreeable to the giver and receiver. The kindly connexion it forms between them, grows stronger and stronger by reiteration; and squalid poverty, far from being an obstruction, excites a degree of pity, proportioned to the distress. It may happen for a wonder, that an indigent person is overlooked; but for one who will suffer by such neglect, multitudes suffer by compelled charity.

The Italians are not more remarkable for a charitable disposition, than their neighbours. No fewer however than seventy thousand mendicant friars live there upon voluntary charity: and I have not heard that any one of them ever died of want.

But what I inſiſt on with peculiar ſatisfaction is, that natural charity is an illuſtrious ſupport to virtue. Indigent virtue can never fail of relief, becauſe it never fails to enflame compaſſion. Indigent vice, on the contrary, raiſes indignation more than pity[1]; and therefore can have little proſpect of relief. What a glorious incitement of induſtry and virtue, and how diſcouraging to idleneſs and vice! Will it be thought chimerical to obſerve further, that to leave the indigent on Providence, will tend to improve manners as well as virtue among the lower claſſes? No man can think himſelf ſecure againſt being reduced to depend on his neighbours for bread. The influence of that thought, will make every one ſolicitous to acquire the good will of others. Lamentable it is, that ſo beautiful a ſtructure ſhould be raiſed to the foundation by municipal law, which, in providing for the poor, makes no diſtinction between virtue and vice. The execution of the poor-laws would be impracticable, were ſuch a diſtinction attempted by inquiring into the conduct and character of every *pauper*. Where are judges to be found who will patiently follow out ſuch a dark and intricate expiſcation? To accompliſh the taſk, a man muſt abandon every other concern.

In the firſt Engliſh ſtatutes mentioned above, the legiſlature appear carefully to have avoided compulſory charity: every meaſure for promoting voluntary charity was firſt tried, before the fatal

[1] Elements of Criticiſm, ch. 2. part 7.

blow was struck, empowering parish officers to impose a tax for the poor. The legislature certainly did not foresee the baneful consequences: but how came they not to see that they were distrusting Providence, declaring in effect, that the plan established by our Maker for the poor, is insufficient? Many are the municipal laws that enforce the laws of nature, by additional rewards and punishments; but it was singularly bold to abolish the natural law of charity, by establishing a legal tax in its stead. Men will always be mending. What a confused jumble do they make, when they attempt to mend the laws of Nature! Leave Nature to her own operations: she understands them the best.

Few regulations are more plausible than what are political; and yet few are more deceitful. A writer, blind with partiality for this country, makes the following observations upon the 43 Elisab. establishing a maintenance for the poor. "Laws have "been enacted in many other countries, which "have punished the idle beggar, and exhorted the "rich to extend their charity to the poor: but it "is peculiar to the humanity of England, to have "made their support a matter of obligation and "necessity on the more wealthy. The English seem "to be the first nation in Europe in science, arts, "and arms: they likewise are possessed of the freest "and most perfect of constitutions, and the blessings "consequential to that freedom. If virtues in an "individual are sometimes supposed to be rewarded "in this world, I do not think it too presumptuous

"to suppose, that national virtues may likewise "meet with their reward. England hath, to its "peculiar honour, not only made their poor free, "but hath provided a certain and solid establishment "to prevent their necessities and indigence, when "they arise from what the law calls *the act of "God*: and are not these beneficent and humane "attentions to the miseries of our fellow-creatures, "the first of those poor pleas which we are capable "of offering, in behalf of our imperfections, to "an allwise and merciful Creator!" To this writer I oppose another, whose reflections are more sound. "In England, there is an act of the legislature, "obliging every parish to maintain its own poor. "Scarce any man living, who has not seen the "effects of this law, but must approve of it; and "yet such are its effects, that the streets of London "are filled with objects of misery beyond what is "seen in any other city. The laboring poor, "depending on this law to be provided in sickness "and old age, are little solicitous to save; and "become habitually profuse. The principle of "charity is established by Providence in the human "heart, for relieving those who are disabled to "work for themselves. And if the laboring poor "had no dependence but on the principle of charity, "they would be more religious; and if they were "influenced by religion, they would be less aban-"doned in their behaviour. Thus this seeming-"good act turns to a national evil: there is more "distress among the poor in London than any

"where in Europe; and more drunkenness both "in males and females."

I am aware, that during the reign of Elisabeth, some compulsion might be necessary to preserve the poor from starving. Her father Henry had sequestered all the hospitals, a hundred and ten in number, and squandered their revenues; he had also demolished all the abbeys. By these means, the poor were reduced to a miserable condition; especially as private charity, for want of exercise, was at a low ebb. That critical juncture required indeed help from the legislature: and a temporary provision for the poor would have been a proper measure; so contrived as not to supersede voluntary charity, but rather to promote it. Unlucky it is for England, that such a measure was overlooked; but Queen Elisabeth and her parliaments had not the talent of foreseeing consequences without the aid of experience. A perpetual tax for the poor was imposed, the most pernicious tax that ever was imposed in any country.

With respect to the present times, the reason now given pleads against abolishing at once a legal provision for the poor. It may be taken for granted, that charity is in England not more vigorous at present, than it was in the days of Elisabeth. Would our ministry but lead the way, by showing some zeal for a reformation, expedients would probably be invented for supporting the poor, without unhinging voluntary charity. The following expedient is proposed merely as a specimen.

[7] Author of Angeloni's letters.

Let a tax be impoſed by parliament on every pariſh for their poor, variable in proportion to the number; but not to exceed the half of what is neceſſary: directing the landholders to make up quarterly, a liſt of the names and condition of ſuch perſons as in their opinion deſerve charity; with an eſtimate of what each ought to have weekly. The public tax makes the half, and the other half is to be raiſed by voluntary contribution. To prevent confuſion, the roll of the poor, and their weekly appointment, with a ſubſcription of gentlemen for their part of the ſum, ſhall be examined by the juſtices of peace at a quarterly meeting; who, on receiving ſatisfaction, muſt order the ſum ariſing from the public tax to be diſtributed among the poor contained in the roll, according to the eſtimate of the landholders. As the public fund dies dead till the ſubſcription be completed, it is not to be imagined that any gentleman will ſtand out; it would be a public imputation on his character. Far from apprehending any deficiency, confident I am, that every gentleman would conſider it as honorable to contribute largely. This agreeable work muſt be blended with ſome degree of ſeverity, that of excluding from the roll every profligate, male or female. If that rule be ſtrictly followed out, the innocent poor will diminiſh daily; ſo as in time to be ſafely left upon voluntary charity, without neceſſity of any tax.

But muſt miſerable wretches, reduced to poverty by idleneſs or intemperance, be, in a Chriſtian country, abandoned to diſeaſes and famine. This

is the argument, shallow as it is, that has corrupted the industry of England, and reduced multitudes to diseases and famine. Those who are able to work, may be locked up in a house of correction, to be fed with bread and water; but with liberty of working for themselves. And as for the remainder, their case is not desperate, when they have access to such tender-hearted persons as are more eminent for pity than for principle. If by neglect or oversight any happen to die of want, the example will tend more to reformation, than the most pathetic discourse from the pulpit.

Even at the hazard of losing a few lives by neglect or oversight, common begging ought absolutely to be prohibited. The most profligate, are the most impudent and the most expert at feigning distress. If begging be indulged to any, all will rush into the public: idlers are fond of that wandering and indolent sort of life; and there is no temptation to idleness more successful, than liberty to beg. In order to be relieved from common beggars, it has been proposed, to fine those who give them alms. Little penetration must they have, to whom the insufficiency of such a remedy is not palpable. It is easy to give alms without being seen; and compassion will extort alms, even at the hazard of suffering for it; not to mention, that every one in such a case would avoid the odious character of an informer. The following remedy is suggested, as what probably may answer. An officer must be appointed in every parish, with a competent salary, for apprehending and carrying to the work-house

very ſtrolling beggar; under the penalty of loſing his office, with what ſalary is due to him, if any beggar be found ſtrolling four-and-twenty hours after the fact comes to his knowledge. In the work-houſe ſuch beggars ſhall be fed with bread and water a year, but with liberty of working for themſelves. I declare reſolutely againſt a perpetual tax for the poor. But if there muſt be ſuch a tax, I know of none leſs ſubverſive of induſtry and morals than that eſtabliſhed in Scotland, obliging the landholders of every pariſh to meet at ſtated times, in order to provide a fund for the poor; but leaving the objects of their charity, and the meaſure, to their own humanity and diſcretion. In this plan, there is no encroachment on the natural duty of charity, but only that the minority muſt ſubmit to the opinion of the majority.

In large towns, where the character and circumſtances of the poor are not ſo well known as in country-pariſhes, the following variation is propoſed. Inſtead of landholders, who are proper in country-pariſhes; let there be in each town-pariſh a ſtanding committee choſen by the proprietors of houſes, the third part to be changed annually. This committee with the miniſter, make up a liſt of ſuch as deſerve charity, adding an eſtimate of what, with their own labor, may be ſufficient for each of them. The miniſter, with one or two of the committee, carry about this liſt to every family that can afford charity, ſuggeſting what may be proper for each to contribute. This liſt, with an addition of the ſum contributed or promiſed by each

houſeholder, muſt be affixed on the principal door of the pariſh-church; to honor the contributors, and to inform the poor of the proviſion made for them. Some ſuch mode may probably be effectual, without tranſgreſſing the bounds of voluntary charity. But if any one obſtinately refuſe to contribute after ſeveral applications, the committee at their diſcretion may tax him. If it be the poſſeſſor who declines contributing, the tax muſt be laid upon him, reſerving relief againſt his landlord.

In great towns, the poor, who ought to be prohibited from begging, are leſs known than in country-pariſhes; and among a crowd of inhabitants, it is eaſier for an individual to eſcape the public eye when he with-holds charity, than in country-pariſhes. Both defects would be remedied by the plan above propoſed: it will bring to light, in great cities, the poor who deſerve charity; and it will bring to light every perſon who with-holds charity.

In every regulation for the poor, Engliſh and Scotch, it is taken for granted, that the poor are to be maintained in their own houſes. Parochial poor-houſes are creeping into faſhion: a few are already erected both in England and Scotland; and there is depending in parliament a plan for eſtabliſhing poor-houſes in every part of England. Yet whether they ought to be preferred to the accuſtomed mode, deſerves ſerious conſideration. The erection and management of a poor-houſe are expenſive articles; and if they do not upon the whole appear clearly beneficial, it is better to ſtop ſhort in time.

Economy

Economy is the great motive that inclines people to this new mode of providing for the poor. It is imagined, that numbers collected at a common table, can be maintained at less expense than in separate houses; and foot-soldiers are given for an example, who could not live on their pay if they did not mess together. But the cases are not parallel. Soldiers, having the management of their pay, can club for a bit of meat. But as the inhabitants of a poor-house are maintained by the public, the same quantity of provisions must be allotted to each; as there can be no good rule for separating those who eat much from those who eat little. The consequence is what may be expected: the bulk of them reserve part of their victuals for purchasing ale or spirits. It is vain to expect work from them: poor wretches void of shame will never work seriously, where the profit accrues to the public, not to themselves. Hunger is the only effectual means for compelling such persons to work.

Where the poor are supported in their own houses, the first thing that is done, or ought to be done, is to estimate what each can earn by their own labor; and as far only as that falls short of maintenance, is there place for charity. They will be as industrious as possible, because they work for themselves; and a weekly sum of charity under their own management, will turn to better account, than in a poor-house, under the direction of mercenaries. The quantity of food for health depends greatly on custom. Busbequius observes, that the Turks eat very little flesh-meat; and that the Janissaries

in particular, at that time a moſt formidable infantry, were maintained at an expenſe far below that of a German. Wafers, cakes, boiled rice, with ſmall bits of mutton or pullet, were their higheſt entertainment, fermented liquors being abſolutely prohibited. The famous Montecuculi ſays, that the Janiſſaries eat but once a day, about ſunſet; and that cuſtom makes it eaſy. Negroes are maintained in the Weſt Indies at a very ſmall expenſe. A bit of ground is allotted to them for raiſing vegetables, which they cultivate on Sunday, being employed all the reſt of the week in laboring for their maſters. They receive a weekly allowance of dried fiſh, about a pound and a half; and their only drink is water. Yet by vegetables and water with a morſel of dried fiſh, theſe people are ſufficiently nouriſhed to perform the hardeſt labor in a moſt enervating climate. I would not have the poor to be pampered, which might prove a bad example to the induſtrious: if they be ſupported in the moſt frugal manner, the duty of charity is fulfilled. And in no other manner can they be ſupported ſo frugally, as to leave to their own diſpoſal what they receive in charity. Not a penny will be laid out on fermented liquors, unleſs perhaps as a medicine in ſickneſs. Nor does their low fare call for pity. Ale makes no part of the maintenance of thoſe in Scotland who live by the ſweat of their brows. Water is their only drink; and yet they live comfortably, without ever thinking of pitying themſelves. Many gentlemen drink nothing but water; who feel no decay either in

ealth or vigor. The perſon however who ſhould ropoſe to baniſh ale from a poor-houſe, would be xclaimed againſt as hard-hearted and void of harity. The difference indeed is great between vhat is done voluntarily, and what is done by com-ulſion. It is provoking to hear of the petulance nd even luxury of the Engliſh poor. Not a perſon n London who lives by the pariſh-charity will eign to eat brown bread; and in ſeveral parts of ngland, many who receive large ſums from that und, are in the conſtant cuſtom of drinking tea wice a-day. Will one incline to labor where idleneſs nd beggary are ſo much encouraged?

But what objection, it will be urged, lies againſt dopting in a poor-houſe the plan mentioned, iving to no perſon in money more than what his work, juſtly eſtimated, falls ſhort of maintenance? t is eaſy to foreſee, that this plan can never anſwer n a poor-houſe. The materials for work muſt be rovided by mercenary officers; who muſt alſo be truſted with the diſpoſal of the made work, for behoof of the poor people. Theſe operations may go on ſweetly a year or two, under the influence of novelty and zeal for improvement; but it would be chimerical to expect for ever ſtrict fidelity in mercenary officers, whoſe management cannot eaſily be checked. Computing the expenſe of this operoſe management, and giving allowance for endleſs frauds in purchaſing and ſelling, I boldly affirm, that the plan would turn to no account. Conſider next the weekly ſum given in charity: people confined in a poor-houſe have no means for purchaſing

neceſſaries but at a ſutlery, where they will certainly be impoſed on, and their money go no length.

We are now ripe for a compariſon with reſpect to economy. Many a houſeholder in Edinburgh makes a ſhift to maintain a family with their gain of four ſhillings *per* week, amounting to ten pounds eight ſhillings yearly. Seldom are there fewer than four or five perſons in ſuch a family; the huſband, the wife, and two or three children. Thus four or five perſons can be maintained under eleven pounds yearly. But are they maintained ſo cheap in the Edinburgh poor-houſe? Not a ſingle perſon there but at an average coſts the public at leaſt four pounds yearly. Nor is this all. A great ſum remains to be taken into the computation, the intereſt of the ſum for building, yearly reparations, expenſe of management, wages to ſervants, male and female. A proportion of this great ſum muſt be laid upon each perſon, which ſwells the expenſe of their maintenance. And when every particular is taken into the account, I have no heſitation to pronounce, that laying aſide labor altogether, a man can make a ſhift to maintain himſelf privately at half of the expenſe that is neceſſary in a poor-houſe.

So far we have travelled on ſolid ground; and what follows is equally ſolid. Among the induſtrious, not many are reduced ſo low, but that they can make ſome ſhift for themſelves. The quantity of labor that can be performed by thoſe who require aid, cannot be brought under any accurate eſtimation. To pave the way to a conjecture, thoſe who are reduced to poverty by

diſſoluteneſs or ſheer idleneſs, ought abſolutely to be rejected as unworthy of public charity. If ſuch wretches can prevail on the tender-hearted to relieve them privately, ſo far well: they ought not to be indulged with any other hope. Now laying theſe aſide, the quantity of labor may be fairly computed as half maintenance. Here then is another great article ſaved to the public. If a man can be maintained privately at half of what is neceſſary in a poor-houſe, his work, reckoning it half of his maintenance, brings down the ſum to the fourth part of what is neceſſary in a poor-houſe.

Undiſtinguiſhed charity to the undeſerving and undeſerving, has multiplied the poor; and will multiply them more and more without end. Let it be publicly known that the diſſolute and idle have no chance to be put on a charity-roll; the poor, inſtead of increaſing, will gradually diminiſh, till none be left but proper objects of charity, ſuch as have been reduced to indigence by old age or innocent misfortune. And if that rule be ſtrictly adhered to, the maintenance of the poor will not be a heavy burden. After all, a houſe for the poor may poſſibly be a frugal ſcheme in England where the pariſh-rates are high, in the town of Bedford for example. In Scotland, it is undoubtedly a very unfrugal ſcheme.

Hitherto of a poor-houſe with reſpect to economy There is another point of ſtill greater moment; which is to conſider the influence it has on the manners of the inhabitants. A number of perſons, ſtrangers to each other, and differing in temper and

manners, can never live comfortably together: will ever the ſober and innocent make a tolerable ſociety with the idle and profligate? In our poor-houſes accordingly, quarrels and complaints are endleſs. The family-ſociety and that of a nation under government, are prompted by the common nature of man; and none other. In monaſteries and nunneries, envy, detraction, and heart-burning, never ceaſe. Sorry I am to obſerve, that in ſeminaries of learning concord and good-will do not always prevail, even among the profeſſors. What adds greatly to the diſeaſe in a poor-houſe, is that the people ſhut up there, being ſecure of maintenance, are reduced to a ſtate of abſolute idleneſs, for it is in vain to think of making them work: they have no care, nothing to keep the blood in motion. Attend to a ſtate ſo different from what is natural to us. Thoſe who are innocent and harmleſs, will languiſh, turn diſpirited, and tire of life. Thoſe of a buſtling and reſtleſs temper, will turn ſour and peeviſh for want of occupation: they will murmur againſt their ſuperiors, pick quarrels with their neighbours, and ſow diſcord every where. The worſt of all is, that a poor-houſe never fails to corrupt the morals of the inhabitants; nothing tends ſo much to promote vice and immorality, as idleneſs among a number of low people collected in one place. Among no ſet of people does profligacy more abound, than among the ſeamen in Greenwich hoſpital.

A poor-houſe tends to corrupt the body no leſs

than the mind. It is a nurſery of diſeaſes, foſtered by dirtineſs and crowding.

To this ſcene let us oppoſe the condition of thoſe who are ſupported in their own houſes. They are laid under the neceſſity of working with as much aſſiduity as ever; and as the ſum given them in charity is at their own diſpoſal, they are careful to lay it out in the moſt frugal manner. If by parſimony they can ſave any ſmall part, it is their own; and the hope of increaſing this little ſtock, ſupports their ſpirits and redoubles their induſtry. They live innocently and comfortably, becauſe they live induſtriouſly; and induſtry, as every one knows, is the chief pleaſure of life to thoſe who have acquired the habit of being conſtantly employed.

## SKETCH XI.

### *A Great City conſidered in Phyſical, Moral, and Political Views.*

IN all ages an opinion has been prevalent, that a great city is a great evil; and that a capital may be too great for the ſtate, as a head may be for the body. Conſidering however the very ſhallow reaſons that have been given for this opinion, it ſhould ſeem to be but ſlightly founded. There are ſeveral ordinances limiting the extent of Paris,

and prohibiting new buildings beyond the prescribed bounds; the first of which is by Henry II. *anno* 1549. These ordinances have been renewed from time to time, down to the 1672, in which year there is an edict of Louis XIV. to the same purpose. The reasons assigned are, "First, That by enlarging "the city, the air would be rendered unwholesome. "Second, That cleaning the streets would prove "a great additional labor. Third, That adding "to the number of inhabitants would raise the "price of provisions, of labor, and of manufac-"tures. Fourth, That ground would be covered "with buildings instead of corn, which might "hazard a scarcity. Fifth, That the country would "be depopulated by the desire that people have "to resort to the capital. And, lastly, That the "difficulty of governing such numbers, would be "an encouragement to robbery and murder."

In these reasons, the limiting the extent of the city and the limiting the number of inhabitants are jumbled together, as if they were the same. The only reasons that regard the former, are the second and fourth; and these, at best, are trifling. The first reason urged against enlarging the city, is a solid reason for enlarging it, supposing the numbers to be limited; for crowding is an infallible means to render the air unwholesome. Paris, with the same number of inhabitants that were in the days of the fourth Henry, occupies thrice the space, much to the health as well as comfort of the inhabitants. Had the ordinances mentioned been made effectual, the houses in Paris must all have been built story above story, ascending to the

ſky like the tower of Babel. Before the great fire *anno* 1666, the plague was frequent in London; but by widening the ſtreets and enlarging the houſes, there has not ſince been known in that great city, any contagious diſtemper that deſerves the name of a plague. The third, fifth, and laſt reaſons, conclude againſt permitting any addition to the number of inhabitants; but conclude nothing againſt enlarging the town. In a word, the meaſure adopted in theſe ordinances has little or no tendency to correct the evils complained of; and infallibly would enflame the chief of them. The meaſure that ought to have been adopted, is to limit the number of inhabitants, not the extent of the town.

Queen Eliſabeth of England, copying the French ordinances, iſſued a proclamation *anno* 1602, prohibiting any new buildings within three miles of London. The preamble is in the following words: "That foreſeeing the great and manifold incon-" veniencies and miſchiefs which daily grow, and " are likely to increaſe, in the city and ſuburbs of " London, by confluence of people to inhabit the " ſame; not only by reaſon that ſuch multitudes " can hardly be governed, to ſerve God and obey " her Majeſty, without conſtituting an addition " of new officers, and enlarging their authority; " but alſo can hardly be provided of food and " other neceſſaries at a reaſonable price; and finally, " that as ſuch multitudes of people, many of them " poor who muſt live by begging or worſe means, " are heaped up together, and in a ſort ſmothered " with many children and ſervants in one houſe

" or ſmall tenement, it muſt needs follow, if any " plague or other univerſal ſickneſs come amongſt " them, that it would preſently ſpread through the " whole city and confines, and alſo into all parts " of the realm."

There appears as little accuracy in this proclamation, as in the French ordinances. The ſame error is obſervable in both, which is the limiting the extent of the city, inſtead of limiting the number of inhabitants. True it is indeed, that the regulation would have a better effect in London than in Paris. As ſtone is in plenty about Paris, houſes there may be carried to a very great height; and are actually ſo carried in the old town: but there being no ſtone about London, the houſes formerly were built of timber, now of brick; materials too frail for a lofty edifice.

Proceeding to particulars, the firſt objection, which is the expenſe of governing a great multitude, concludes againſt the number of inhabitants not againſt the extent of the city. At the ſame time, the objection is at beſt doubtful in point of fact. Though vices abound in a great city, requiring the ſtricteſt attention of the magiſtrate; yet with a well-regulated police, it appears leſs expenſive to govern 600,000 in one city, than the ſame number in ten different cities. The ſecond objection, viz. the high price of proviſions, ſtrikes only againſt numbers, not extent. Beſide, whatever might have been the caſe in the days of Eliſabeth, when agriculture and internal commerce were in their infancy; there are at preſent not many

towns in England, where a temperate man may live cheaper than in London. The hazard of contagious diſtempers, which is the third objection, is an invincible argument againſt limiting the extent of a great town. It is mentioned above, that from the year 1666, when the ſtreets were widened and the houſes enlarged, London has never been once viſited by the plague. If the proclamation had taken effect, the houſes muſt have been ſo crowded upon each other, and the ſtreets ſo contracted, as to have occaſioned plagues ſtill more frequently than before the year 1666.

The Queen's immediate ſucceſſors were not more clear-ſighted than ſhe had been. In the year 1624, King James iſſued a proclamation againſt building in London upon new foundations. Charles I. iſſued two proclamations to the ſame purpoſe; one in the year 1625, and one in the year 1630.

The progreſs of political knowledge has unfolded many bad effects of a great city, more weighty than any urged in theſe proclamations. The firſt I ſhall mention, is, that people born and bred in a great city are commonly weak and effeminate. Vegetius[1] obſerving, that men bred to huſbandry make the beſt ſoldiers, adds what follows. "Interdum tamen neceſſitas exigit, etiam urbanos ad "arma compelli: qui ubi nomen dedere militiæ, "primum laborare, decurrere, portare pondus, & "ſolem pulveremque ferre, condiſcant; parco victu "utantur & ruſtico; interdum ſub divo, interdum

[1] De re militari, lib. 1. cap. 3.

" ſub papilionibus, commorentur. Tunc demum " ad uſum erudiantur armorum: & ſi longior expo- " ditio emergit, in angariis plurimum detinendi " ſunt, proculque habendi a civitatis illecebris: ut " eo modo, & corporibus eorum robur accedat, " & animis [a]." The luxury of a great city deſcends from the higheſt to the loweſt, infecting all ranks of men; and there is little opportunity in it for ſuch exerciſe as to render the body vigorous and robuſt.

The foregoing is a phyſical objection againſt a great city: the next regards morality. Virtue is exerted chiefly in reſtraint: vice, in giving freedom to deſire. Moderation and ſelf-command form a character the moſt ſuſceptible of virtue: ſuperfluity of animal ſpirits, and love of pleaſure, form a character the moſt liable to vice. Low vices, pilfering for example, or lying, draw few or no imitators; but vices that indicate a ſoul above reſtraint, produce many admirers. Where a man

[a] "But ſometimes there is a neceſſity for arming the " townſpeople, and calling them out to ſervice. When " this is the caſe, it ought to be the firſt care, to enure " them to labor, to march them up and down the country, " to make them carry heavy burdens, and to harden them " againſt the weather. Their food ſhould be coarſe and " ſcanty, and they ſhould be habituated to ſleep alternately " in their tents, and in the open air. Then is the time " to inſtruct them in the exerciſe of their arms. If the " expedition is a diſtant one, they ſhould be chiefly em- " ployed in the ſtations of poſts or expreſſes, and removed " as much as poſſible from the dangerous allurements that " abound in large cities; that thus they may be envi- " gorated both in mind and body."

oldly ſtruggles againſt unlawful reſtraint, he is ſtly applauded and imitated; and the vulgar are ot apt to diſtinguiſh nicely between lawful and nlawful reſtraint: the boldneſs is viſible, and they ierce no deeper. It is the unruly boy, full of nimal ſpirits, who at public ſchool is admired and mitated; not the virtuous and modeſt. Vices acordingly that ſhow ſpirit, are extremely infectious; irtue very little. Hence the corruption of a great ity, which increaſes more and more in proportion o the number of inhabitants. But it is ſufficient ere barely to mention that objection, becauſe it as been formerly inſiſted on.

The following bad effects are more of a political nature. A great town is a profeſſed enemy to the free circulation of money. The current coin is accumulated in the capital: and diſtant provinces muſt ſink into idleneſs; for without ready money neither arts nor manufactures can flouriſh. Thus we find leſs and leſs activity, in proportion commonly to the diſtance from the capital; and an abſolute torpor in the extremities. The city of Milan affords a good proof of this obſervation. The money that the Emperor of Germany draws from it in taxes is carried to Vienna; not a farthing left but what is barely ſufficient to defray the expenſe of government. Manufactures and commerce have gradually declined in proportion to the ſcarcity of money; and that city which the laſt century contained 300,000 inhabitants, cannot now muſter above 90,000 [1]. It may be obſerved

[1] Is not the following inference from theſe premiſes well

beſide, that as horſes in a great city muſt be provided with provender from a diſtance, the country is robbed of its dung, which goes to the rich fields round the city. But as manure laid upon poor land, is of more advantage to the farmer, than upon what is already highly improved, the depriving diſtant parts of manure is a loſs to the nation in general. Nor is this all: The dung of an extenſive city, the bulk of it at leaſt, is ſo remote from the fields to which it muſt be carried, that the expenſe of carriage ſwallows up the profit.

Another bad effect of accumulating many in the capital is, that it raiſes the price of labor. The temptation of high wages in the capital, robs the country of its beſt hands. And as they who reſort to the capital are commonly young people, who remove as ſoon as they are fit for work, diſtant provinces are burdened with their maintenance, without reaping any benefit by their labor.

But of all, the moſt deplorable effect of a great city, is the preventing of population, by ſhortening the lives of its inhabitants. Does a capital ſwell in proportion to the numbers that are drained from

founded, that it would be a ruinous meaſure to add Bengal to the British dominions? In what manner would the territorial revenues and other taxes be remitted to London? If in hard coin, that country would in time be drained of money, its manufactures would be annihilated, and depopulation enſue. If remitted in commodities, the public would be cheated, and little be added to the revenue. A land-tax laid on as in Britain would be preferable in every reſpect; for it would be paid by the Eaſt-India Company as proprietors of Bengal without deduction of a farthing.

he country? Far from it. The air of a populous ity is infected by multitudes crowded together; and eople there ſeldom make out the uſual time of ſe. With reſpect to London in particular, the ct cannot be diſſembled. The burials in that mmenſe city greatly exceed the births: the difference ome affirm to be no leſs than ten thouſand yearly: y the moſt moderate computation, not under even or eight thouſand. As London is far from eing on the decline, that number muſt be ſupplied y the country; and the annual ſupply amounts robably to a greater number, than were needed nnually for recruiting our armies and navies in he late war with France. If ſo, London is a greater enemy to population, than a bloody war would be, ſuppoſing it even to be perpetual. What n enormous tax is Britain thus ſubjected to for ſupporting her capital! The rearing and educating yearly for London 7 or 8000 perſons, require an mmenſe ſum.

In Paris, if the bills of mortality can be relied on, he births and burials are nearly equal, being each of them about 19,000 yearly; and according to hat computation, Paris ſhould need no recruits rom the country. But in that city, the bills of mortality cannot be depended on for burials. It is here univerſally the practice of high and low, to have their infants nurſed in the country, till they be three years of age; and conſequently thoſe who die before that age, are not inliſted. What proportion theſe bear to the whole is uncertain. But a gueſs may be made from ſuch as die in London

before the age of three, which are computed to be one half of the whole that die *. Now giving the utmoſt allowance for the healthineſs of the country above that of a town; children from Paris that die in the country before the age of three, cannot be brought ſo low as a third of thoſe who die. On the other hand, the London bills of mortality are leſs to be depended on for births than for burials. None are inliſted but infants baptized by clergymen of the Engliſh church; and the numerous children of Papiſts, Diſſenters, and other ſectaries, are left out of the account. Upon the whole, the difference between the births and burials in Paris and in London, is much leſs than it appears to be on comparing the bills of mortality of theſe two cities.

At the ſame time, giving full allowance for children who are not brought into the London bills of mortality, there is the higheſt probability that a greater number of children are born in Paris than in London; and conſequently that the former requires fewer recruits from the country than the latter. In Paris, domeſtic ſervants are encouraged to marry: they are obſerved to be more ſettled than when bachelors, and more attentive to their duty. In London, ſuch marriages are diſcouraged, as rendering a ſervant more attentive to his own family than to that of his maſter. But a ſervant attentive to his own family, will not, for his own ſake, neglect that of his maſter. At any rate, is he

* See Dr Price, p. 362.

not

not more to be depended on, than a ſervant who continues ſingle? What can be expected of idle and pampered bachelors, but debauchery and every ſort of corruption? Nothing reſtrains them from abſolute profligacy, but the eye of the maſter; who for that reaſon is their averſion not their love. If the poor-laws be named the folio of corruption, bachelor-ſervants in London may well be conſidered as a large appendix. And this attracts the eye to the poor-laws, which indeed make the chief difference between Paris and London, with reſpect to the preſent point. In Paris, certain funds are eſtabliſhed for the poor, the yearly produce of which admits but a limited number. As that fund is always pre-occupied, the low people who are not on the liſt, have little or no proſpect of bread, but from their own induſtry; and to the induſtrious, marriage is in a great meaſure neceſſary. In London, a pariſh is taxed in proportion to the number of its poor; and every perſon who is pleaſed to be idle, is entitled to maintenance. Moſt things thrive by encouragement, and idleneſs above all. Certainty of maintenance, renders the low people in England idle and profligate; eſpecially in London, where luxury prevails, and infects every rank. So infolent are the London poor, that ſcarce one of them will condeſcend to eat brown bread. There are accordingly in London, a much greater number of idle and profligate wretches, than in Paris, or in any other town, in proportion to the number of inhabitants. Theſe wretches, in Doctor Swift's ſtyle, never think of poſterity, becauſe

poſterity never thinks of them: men who hunt after pleaſure, and live from day to day, have no notion of ſubmitting to the burden of a family. Theſe cauſes produce a greater number of children in Paris than in London, though probably they differ not much in populouſneſs.

I ſhall add but one other objection to a great city, which is not ſlight. An overgrown capital, far above a rival, has, by numbers and riches, a diſtreſſing influence in public affairs. The populace are ductile, and eaſily miſled by ambitious and deſigning magiſtrates. Nor are there wanting critical times, in which ſuch magiſtrates, acquiring artificial influence, may have power to diſturb the public peace. That an overgrown capital may prove dangerous to ſovereignty, has more than once been experienced both in Paris and London.

It would give one the ſpleen, to hear the French and Engliſh zealouſly diſputing about the extent of their capitals, as if the proſperity of their country depended on that circumſtance. To me it appears like one glorying in the king's-evil, or in any contagious diſtemper. Much better employed would they be, in contriving means for leſſening theſe cities. There is not a political meaſure, that would tend more to aggrandize the kingdom of France, or of Britain, than to ſplit its capital into ſeveral great towns. My plan would be, to confine the inhabitants of London to 100,000, compoſed of the King and his houſehold, ſupreme courts of juſtice, government-boards, prime nobility and gentry, with neceſſary ſhopkeepers, artiſts, and

other dependents. Let the reſt of the inhabitants be diſtributed into nine towns properly ſituated, ſome for internal commerce, ſome for foreign. Such a plan would diffuſe life and vigor through every corner of the iſland.

To execute ſuch a plan, would, I acknowledge, require great penetration and much perſeverance. I ſhall ſuggeſt what occurs at preſent. The firſt ſtep muſt be, to mark proper ſpots for the nine towns, the moſt advantageous for trade, or for manufactures. If any of theſe ſpots be occupied already with ſmall towns, ſo much the better. The next ſtep is a capitation-tax on the inhabitants of London; the ſum levied to be appropriated for encouraging the new towns. One encouragement would have a good effect; which is, a premium to every man who builds in any of theſe towns, more or leſs, in proportion to the ſize of the houſe. This tax would baniſh from London, every manufacture but of the moſt lucrative kind. When by this means, the inhabitants of London are reduced to a number not much above 100,000, the near proſpect of being relieved from the tax, will make houſeholders active to baniſh all above that number: and to prevent a renewal of the tax, a greater number will never again be permitted. It would require much political ſkill to proportion the ſums to be levied and diſtributed, ſo as to have their proper effect, without overburdening the capital on the one hand, or giving too great encouragement for building on the other, which might tempt people to build for the premium merely, without

any further view. Much will depend on an advantageous ſituation: houſes built there will always find inhabitants.

The two great cities of London and Weſtminſter are extremely ill fitted for local union. The latter, the ſeat of government and of the nobleſſe, infects the former with luxury and with love of ſhow. The former, the ſeat of commerce, infects the latter with love of gain. The mixture of theſe oppoſite paſſions, is productive of every groveling vice.

## SKETCH. XII.

### *Origin and Progreſs of American Nations.*

HAving no authentic materials for a natural hiſtory of all the Americans, the following obſervations are confined to a few tribes, the beſt known; and to the kingdoms of Peru and Mexico, as they were at the date of the Spaniſh conqueſt.

As there has not been diſcovered any paſſage by land to America from the old world, no problem has more embarraſſed the learned, than to account for the origin of American nations: there are as many different opinions as there are writers. Many attempts have been made for diſcovering a paſſage by land; but hitherto in vain. Kamſhatka, it is true, is divided from America by a narrow ſtrait, full of iſlands: and M. Buffon, to render the paſſage ſtill more eaſy than by theſe iſlands, conjectures,

that thereabout there may formerly have been a land-paſſage, ſwallowed up in later times by the ocean. There is indeed great appearance of truth in this conjecture; as all the quadrupeds of the north of Aſia ſeem to have made their way to America; the bear, for example, the roe, the deer, the rain-deer, the beaver, the wolf, the fox, the hare, the rat, the mole. He admits, that in America there is not to be ſeen a lion, a tiger, a panther, or any other Aſiatic quadruped of a hot climate: not, ſays he, for want of a land-paſſage; but becauſe the cold climate of Tartary, in which ſuch animals cannot ſubſiſt, is an effectual bar againſt them [1].

But to give ſatisfaction upon this ſubject, more is required than a paſſage from Kamſhatka to America, whether by land or ſea. An inquiry much more deciſive is totally overlooked, relative to the people on the two ſides of the ſtrait; particularly, whether they have the ſame language. Now by late accounts from Ruſſia we are informed, that there is no affinity between the Kamſhatkan tongue, and that of the Americans on the oppoſite ſide of the ſtrait. Whence we may aſſuredly conclude, that the latter are not a colony of the former.

But further. There are ſeveral cogent arguments

[1] Our author, with ſingular candor, admits it as a ſtrong objection to his theory, that there are no rain-deer in Aſia. But it is doing no more but juſtice to ſo fair a reaſoner, to obſerve, that according to the lateſt accounts, there are plenty of raindeer in the country of Kamſhatka, which of all is the neareſt to America.

to evince, that the Americans are not descended from any people in the north of Asia or in the north of Europe. Were they descended from either, Labrador, or the adjacent countries, must have been first peopled. And as savages are remarkably fond of their natal soil, they would have continued there, till compelled by over-population to spread wider for food. But the fact is directly contrary. When America was discovered by the Spaniards, Mexico and Peru were fully peopled; and the other parts less and less, in proportion to their distance from these central countries. Fabry reports, that one may travel one or two hundred leagues north-west from the Mississippi, without seeing a human face, or any vestige of a house. And some French officers say, that they travelled more than a hundred leagues from the delicious country watered by the Ohio, through Louisiana, without meeting a single family of savages. The civilization of the Mexicans and Peruvians, as well as their populousness, make it extremely probable that they were the first inhabitants of America. In travelling northward, the people are more and more ignorant and savage; the Esquimaux, the most northern of all, are the most savage. In travelling southward, the Patagonians, the most southern of all, are so stupid as to go naked in a bitter cold region.

I venture still farther; which is, to indulge a conjecture, that America has not been peopled from any part of the old world. The external appearance of the inhabitants, makes this conjecture approach to a certainty; as they are widely different in ap-

pearance from any other known people. Excepting the eye-laſhes, eye-brows, and hair of the head, which is invariably jet black, there is not a ſingle hair on the body of any American: no appearance of a beard [a]. Another diſtinguiſhing mark is their copper color, uniformly the ſame in all climates, hot and cold; and differing from the color of every other nation. Ulloa remarks, that the Americans of Cape Breton, reſemble the Peruvians, in complexion, in manners, and in cuſtoms; the only viſible difference being, that the former are of a larger ſtature. A third circumſtance no leſs diſtinguiſhing is, that American children are born with down upon the ſkin, which diſappears the eighth or ninth day, and never grows again. Children of the old world are born with ſkins ſmooth and poliſhed, and no down appears till puberty.

The Eſquimaux are a different race from the reſt of the Americans, if we can have any reliance on the moſt ſtriking characteriſtical marks. Of all the northern nations, not excepting the Laplanders, they are of the ſmalleſt ſize, few of them exceeding four feet in height. They have a head extremely groſs, hands and feet very ſmall. That they are tame and gentle appears from what Ellis ſays in his

[a] Some authors I am aware aſſert that the Americans would have beards like other people; but that the men are at great pains to pluck them out, eſteeming them unbecoming. But why are they eſteemed unbecoming? Plainly from the groteſque figure that ſome men make by having a few downy hairs here and there appearing on the chin. Theſe look as unſeemly among them as a beard upon a woman among us.

account of a voyage, *anno* 1747, for discovering a north-west passage, that they offered their wives to the sailors, with expressions of satisfaction for being able to accommodate them. But above all, their beard and complexion make the strongest evidence of a distinct race. There were lately at London, two Esquimaux men and their wives; and I have the best authority to affirm, that the men had a beard, thin indeed like that of a Nogayan Tartar; that they were not of a copper color like the other Americans, but yellow like people in the North of Asia.

It has been lately discovered, that the language of the Esquimaux is the same with that of the Greenlanders. A Danish missionary, who by some years residence in Greenland had acquired the language of that country, made a voyage with Commodore Pallifer to Newfoundland *anno* 1764. Meeting a company of about two hundred Esquimaux, he was agreeably surprised to hear the Greenland tongue. They received him kindly, and drew from him a promise to return the next year. And we are informed by Crantz, in his history of Greenland, that the same Danish missionary visited them the next year, in company with the Rev. Mr Drachart. They agreed, that the difference between the Esquimaux language and that of Greenland, was not greater than between the dialects of North and South Greenland, which differ not so much as the High and Low Dutch. Both nations call themselves *Innuit* or *Karalit*, and call the Europeans *Kablunet*. Their stature, features, manners, dress,

nts, darts, and boats, are entirely the ſame. As he language of Greenland reſembles not the language f Finland, Lapland, Norway, Tartary, nor that f the Samoides, it is evident, that neither the Eſquiaux nor Greenlanders are a colony from any of the ountries mentioned. Geographers begin now to onjecture, that Greenland is a part of the continent f North America, without intervention of any ſea [1].

From the preceding facts it may be concluded with the higheſt probability, that the continent of America ſouth of the river St Laurence was not peopled from Aſia. Labrador on the north ſide of hat river, is thin of inhabitants; no people having been diſcovered there but the Eſquimaux, who re far from being numerous. As they have plenty of food at home, they never could have had any emptation to ſend colonies abroad. And there is not the ſlighteſt probability, that any other people more remote would, without neceſſity, wander far from home to people Canada or any country farther ſouth. But we are ſcarce left to a conjecture. The copper color of the Canadians, their want of beard, and other characteriſtical marks above mentioned, demonſtrate them to be a race different from the Eſquimaux, and different from any people inhabiting a country on the other ſide of Labrador. Theſe diſtinguiſhing marks cannot be owing to the

[1] The Danes had a ſettlement in Greenland long before Columbus ſaw the Weſt Indies. Would it not appear paradoxical to ſay, that America was diſcovered by the Danes long before the time of Columbus, and long before they knew that they had made the diſcovery?

climate, which is the ſame on both ſides of the river St Laurence. I add, that as the copper color and want of beard continue invariably the ſame in every variety of climate, hot and cold, moiſt and dry, they muſt depend on ſome invariable cauſe acting uniformly; which may be a ſingularity in the race of people [s], but cannot proceed from the climate.

If we can rely on the conjectures of an eminent writer [t], America emerged from the ſea later than any other part of the known world: and ſuppoſing the human race to have been planted in America by the hand of God later than the days of Moſes, Adam and Eve might have been the firſt parents of mankind, *i. e.* of all who at that time exiſted, without being the firſt parents of the Americans. The *Terra Auſtralis incognita* is ſeparated from the reſt of the world by a wide ocean, which carries a ſhip round the earth without interruption [u]. How has that continent been peopled? There is not the ſlighteſt probability, that it ever has been joined to any other land. Here a local creation, if it may be termed ſo, appears unavoidable; and if we muſt admit more than one act of creation, even the appearance of difficulty, from reiteration of acts, totally vaniſheth. M. Buffon in his natural hiſtory affirms, that not a ſingle American quadruped of

[s] Preliminary Diſcourſe. [t] M. Buffon.

[u] Late diſcoveries have annihilated the *Terra Auſtralis incognita*. The argument however remains in force, being equally applicable to many iſlands ſcattered at a great diſtance from the continent in the immenſe South Sea.

hot climate is found in any other part of the earth: with reſpect to theſe we muſt unavoidably admit a local creation; and nothing ſeems more natural, than under the ſame act to comprehend the firſt parents of the American people.

It is poſſible, indeed, that a ſhip with men and women may, by contrary winds, be carried to a very diſtant ſhore. But to account thus for the peopling of America, will not be much reliſhed. Mexico and Peru muſt have been planted before navigation was known in the old world, at leaſt before a ſhip was brought to ſuch perfection as to bear a long courſe of bad weather. Will it be thought, that any ſuppoſition ought to be embraced, however improbable, rather than admit a ſeparate creation. We are, it is true, much in the dark as to the conduct of creative providence; but every rational conjecture leans to a ſeparate creation. America and the *Terra Auſtralis* muſt have been planted by the Almighty with a number of animals and vegetables, ſome of them peculiar to thoſe vaſt continents; and when ſuch care has been taken about inferior life, can ſo wild a thought be admitted, as that man, the nobleſt work of terreſtrical creation, would be left to chance? But it is ſcarce neceſſary to inſiſt upon that topic, as the external characters of the Americans above mentioned reject the ſuppoſition of their being deſcended from any people of the old world.

It is highly probable, that the fertile and delicious plains of Peru and Mexico, were the firſt planted of all the American countries; being more populous

at the time of the Spaniſh invaſion, than any other part of that great continent. This conjecture is ſupported by analogy: we believe that a ſpot, not centrical only, but extremely fertile, was choſen for the parents of the old world; and there is not in America, a ſpot more centrical or more fertile for the parents of the new world, than Mexico or Peru.

Having thus ventured to ſtate what occurred upon the origin of the Americans, without pretending to affirm any thing as certain, we proceed to their progreſs. The North-American tribes are remarkable with reſpect to one branch of their hiſtory, that, inſtead of advancing, like other nations, toward the maturity of ſociety and government, they continue to this hour in their original ſtate of hunting and fiſhing. A caſe ſo ſingular rouſes our curioſity; and we wiſh to be made acquainted with the cauſe. It is not the want of animals capable to be domeſticated, that obliges them to remain hunters and fiſhers. The horſe, it is true, the ſheep, the goat, were imported from Europe; but there are plenty of American quadrupeds no leſs docile than thoſe mentioned. There is in particular a ſpecies of horned cattle peculiar to America, having long wool inſtead of hair, and an exceſcence upon the ſhoulder like that of the Eaſt-India buffalo. Theſe wild cattle multiply exceedingly in the fertile countries which the Miſſiſippi traverſes; and Hennepin reports, that the Indians, after killing numbers, take no part away but the tongue, which is reckoned a delicious morſel. Theſe creatures are not extremely wild; and if taken young, are eaſily tamed: a calf, when

its dam is killed, will follow the hunter, and lick his hand. The wool, the hide, the tallow, would be of great value in the British colonies.

If the shepherd-state be not obstructed in America by want of proper cattle, the only account that can or need be given, is paucity of inhabitants. Consider only the influence of custom, in rivetting men to their local situation and manner of life: once hunters, they will always be hunters, till some cause more potent than custom force them out of that state. Want of food, occasioned by rapid population, brought on the shepherd-state in the old world. That cause has not hitherto existed in North America: the inhabitants, few in number, remain hunters and fishers, because that state affords them a competency of food. I am aware, that the natives have been decreasing in number from the time of the first European settlements. But even at that time, the country was ill-peopled: take for example the country above described, stretching north-west from the Mississippi: the Europeans never had any footing there, and yet to this day it is little better than a desert. I give other examples. The Indians who fourround the lake Nippisong, from whence the river St Laurence issues, are in the whole but five or six thousand; and yet their country is of great extent: they live by hunting and fishing, having bows and arrows, but no fire-arms; and their clothing is the skins of beasts: they are seldom, if ever, engaged in war; have no commerce with any other people, Indian or European, but live as if they had a world to

themſelves [1]. If that country be ill peopled, it is not from ſcarcity of food; for the country is extenſive, and well ſtored with every ſort of game. On the ſouth and weſt of the lake *Superior*, the country is level and fruitful all the way to the Miſſiſippi, having large plains covered with rank graſs, and ſcarce a tree for hundreds of miles: the inhabitants enjoy the greateſt plenty of fiſh, fowl, deer, &c.; and yet their numbers are far from being in proportion to their means of ſubſiſtence. In ſhort, it is the conjecture of the ableſt writers, that in the vaſt extent of North America, when diſcovered, there were not as many people, laying aſide Mexico, as in the half of Europe.

Paucity of inhabitants explains clearly why the North-American tribes remain hunters and fiſhers, without advancing to the ſhepherd-ſtate. But if the foregoing difficulty be removed, another ſtarts up, no leſs puzzling, viz. By what adverſe fate are ſo rich countries ſo ill peopled? It is a conjecture of M. Buffon, mentioned above, that America has been planted later than the other parts of this globe. But ſuppoſing the fact, it has however not been planted ſo late as to prevent a great population; witneſs Mexico and Peru, fully peopled at the era of the Spaniſh invaſion. We muſt therefore ſearch for another cauſe; and none occurs but the infecundity of the North-American ſavages. M. Buffon, a reſpectable author, and for that reaſon often quoted, remarks, that the males are feeble in their organs of generation, that they have no ardor for

[1] Account of North America by Major Robert Rogers.

he female ſex, and that they have few children; o enforce which remark he adds, that the quadru-eds of America, both native and tranſplanted, are f a diminutive ſize, compared with thoſe of the ld world. A woman never admits her huſband, ill the child ſhe is nurſing be three years old; and his led Frenchmen to go often aſtray from their Canadian wives. The caſe was reported by the rieſts to their ſuperiors in France: what regulation was made has eſcaped my memory. Among the males, it is an inviolable law, to abſtain from females while they are engaged in a military expedition. This is a pregnant evidence of their frigidity; for among ſavages the authority of law, or of opinion, ſeldom prevails over any ſtrong appetite: vain would be the attempt to reſtrain them from ſpirituous liquors, though much more debilitating. Neither is there any inſtance, of violence offered by any North-American ſavage, to European women taken captives in war.

Mexico and Peru, when conqueréd by the Spaniards, afforded to their numerous inhabitants the neceſſaries of life in profuſion. Cotton was in plenty, more than ſufficient for the clothing needed in warm climates: Indian wheat was univerſal, and was cultivated without much labor. The natural wants of the inhabitants were thus eaſily ſupplied; and artificial wants had made no progreſs. But the preſent ſtate of theſe countries is very different. The Indians have learned from their conquerors a multitude of artificial wants, good houſes, variety of food, and rich clothes; which muſt be imported,

becauſe they are prohibited from exerciſing any art or calling except agriculture, which ſcarce affords them neceſſaries; and this obliges a great proportion of them to live ſingle. Even agriculture itſelf is cramped; for in moſt of the provinces there is a prohibition to plant vines or olives. In ſhort, it is believed that the inhabitants are reduced to a fourth part of what they were at the time of the Spaniſh invaſion. The ſavages alſo of North America who border on the European ſettlements, are viſibly diminiſhing. When the Engliſh ſettled in America, the five nations could raiſe 15,000 fighting men: at preſent they are not able to raiſe 2000. Upon the whole, it is computed by able writers, that the preſent inhabitants of America amount not to a twentieth part of thoſe who exiſted when that continent was diſcovered by Columbus. This decay is aſcribed to the intemperate uſe of ſpirits, and to the ſmall-pox, both of them introduced by the Europeans [*].

[*] In all the Weſt-Indian colonies, the ſlaves continually decreaſe ſo as to make frequent recruits from Africa neceſſary. "This decreaſe," ſays the author of a late account of Guiana, "is commonly attributed to oppreſſion and hard labor; "though with little reaſon, as the ſlaves are much more "robuſt, healthy, and vigorous, than their maſters. The "true cauſe is, the commerce of white men with young "Negro wenches, who, to ſupport that commerce, uſe "every mean to avoid conception, and even to procure "abortion. By ſuch practices they are incapacitated to bear "children when they ſettle in marriage with their own "countrymen. That this is the true cauſe, will be evident, "from conſidering, that in Virginia and Maryland, the ſtock

It

It is obſervable, that every ſort of plague becomes more virulent by tranſplantation. The plague commits leſs ravage in Egypt, its native place, than in any other country. The venereal diſeaſe was for many ages more violent and deſtructive in Europe, than in America where it was firſt known. The people who ſailed with Chriſtopher Columbus, brought it to Spain from Hiſpaniola. Columbus, with thirty or forty of his ſailors, went directly to Barcelona, where the King then was, to render an account of his voyage. All the inhabitants, who at that time tripled the preſent number, were immediately ſeized with the venereal diſeaſe, which raged ſo furiouſly as to threaten deſtruction to all. The ſmall pox comes under the ſame obſervation; for it has ſwept away many more in America, than

" of ſlaves is kept up without any importation; becauſe in " theſe countries commerce with Negro women is deteſted, " as infamous and unnatural." The cauſe here aſſigned may have ſome effect: but there is a ſtronger cauſe of depopulation, viz. the culture of ſugar, laborious in the field, and unhealthy in the houſe by boiling, &c. The Negroes employed in the culture of cotton, coffee, and ginger, ſeldom need to be recruited. Add, that where tobacco and rice are cultivated, the ſtock of Negroes is kept up by procreation, without neceſſity of recruits. Becauſe there, a certain portion of work is allotted to the Negroes in every plantation; and when that is performed, they are at liberty to work for themſelves. The management in Jamaica is very different: no taſk is there aſſigned; and the poor ſlaves know no end of labor: they are followed all day long by the lower overſeers with whips. And hence it is, that a plantation in Jamaica, which employs a hundred ſlaves, requires an annual recruit of no fewer than ſeven.

ever it did in Europe. In the 1713, the crew of a Dutch veſſel infected the Hottentots with the ſmall pox; which left ſcarce a third of the inhabitants. And the ſame fate befel the Laplanders and Greenlanders. In all appearance, that diſeaſe, if it abate not ſoon of its tranſplanted virulence, will extirpate the natives of North America; for they know little of inoculation.

But ſpirituous liquors are a ſtill more effectual cauſe of depopulation. The American ſavages, male and female, are inordinately fond of ſpirituous liquors; and ſavages generally abandon themſelves to appetite, without the leaſt control from ſhame. The noxious effects of intemperance in ſpirits, are too well known, from fatal experience among ourſelves: before the uſe of gin was prohibited, the populace of London were debilitated by it to a degree of loſing, in a great meaſure, the power of procreation. Lucky it is for the human ſpecies, that the invention of ſavages never reached the production of gin; for ſpirits, in that early period, would have left not one perſon alive, not a ſingle Noah to reſtore the race of men: in order to accompliſh the plan of Providence, creation muſt have been renewed oftener than once [*].

[*] Charlevoix ſays, that an Indian of Canada will give all he is worth for a glaſs of brandy. And he paints thus the effect of drunkenneſs upon them. "Even in the ſtreets of "Montreal are ſeen the moſt ſhocking ſpectacles of ebriety; "husbands, wives, fathers, mothers, brothers, and ſiſters, "ſeizing one another by the throat, and tearing one another "with their teeth, like ſo many enraged wolves."

In the temperate climates of the old world, there is great uniformity in the gradual progreſs of men from the ſavage ſtate to the higheſt civilization; beginning with hunting and fiſhing, advancing to flocks and herds, and then to agriculture and commerce. One will be much diſappointed, if he expect the ſame progreſs in America. Among the northern tribes, there is nothing that reſembles the ſhepherd-ſtate: they continue hunters and fiſhers as originally; becauſe there is no cauſe ſo potent as to force them from that ſtate to become ſhepherds. So far clear. But there is another fact of which we have no example in the old world, that ſeems not ſo eaſily explained: theſe people, without paſſing through the ſhepherd-ſtate, have advanced to ſome degree of agriculture. Before the ſeventeenth century, the Iroquois or Five Nations had villages, and cultivated Indian corn: the Cherokees have many ſmall towns; they raiſe corn in abundance, and encloſe their fields: they breed poultry, and have orchards of peach trees. The Chickeſaws and Creek Indians live pretty much in the ſame manner. The Apalachites ſow and reap in common; and put up the corn in granaries, to be diſtributed among individuals when they want food. The Hurons raiſe great quantities of corn, not only for their own uſe, but for commerce. Many of theſe nations, particularly the Cherokees, have of late got horſes, ſwine, and tame cattle; an improvement borrowed from the Europeans. But corn is of an earlier date: when Sir Richard Grenville took poſſeſſion of Virginia in the reign of Queen Eliſa-

beth, the natives had corn; and Hennepin assures us, that the nations bordering on the Missisippi had corn long before they were visited by any European. Husbandry, it is true, is among those people still in its infancy; being left to the women, who sow, who reap, who store up in public granaries, and who distribute as need requires. The inhabitants of Guiana in South America, continue to this day hunters and fishers. But though they have neither flocks nor herds, they have some husbandry; for the women plant cassava, yams, and plantain. They make a liquor like our ale, termed *piwori*, which they drink with their food. And though they are extremely fond of that liquor, their indolence makes them often neglect to provide against the want of it. To a people having a violent propensity to intemperance, as all savages have, this improvidence is a blessing; for otherwise they would wallow in perpetual drunkenness. They are by no means singular; for unconcern about futurity is the characteristic of all savages: to forego an immediate for a distant enjoyment, can only be suggested by cultivated reason. When the Canary Islands were first visited by Europeans, which was in the fourteenth century, the inhabitants had corn; for which the ground was prepared in the following manner. They had a wooden instrument, not unlike a hoe, with a spur or tooth at the end, on which was fixed a goat's horn. With this instrument the ground was stirred; and if rain came not in its proper season, water was brought by canals from the rivulets. It was the women's province to reap the corn: they

took only the ears; which they threſhed with ſticks, or beat with their feet, and then winnowed in their hands. Huſbandry probably will remain in that ſtate among American ſavages; for as they are decreaſing daily, they can have no difficulty about food. The fact however is ſingular, of a people uſing corn before tame cattle: there muſt be a cauſe, which on better acquaintance with that people will probably be diſcovered.

America is full of political wonders. At the time of the Spaniſh invaſion, the Mexicans and Peruvians had made great advances toward the perfection of ſociety; while the northern tribes, ſeparated from them by diſtance only, were only hunters and fiſhers, and continue ſo to this day. To explain the difference, appears difficult. It is ſtill more difficult to explain, why the Mexicans and Peruvians, inhabitants of the torrid zone, were highly poliſhed in the arts of ſociety and government; conſidering that in the old world, the inhabitants of the torrid zone are for the moſt part little better than ſavages. We are not ſufficiently acquainted with the natural hiſtory of America, nor with that of its people, to attempt an explanation of theſe wonders: it is however part of our taſk, to ſtate the progreſs of ſociety among the Mexicans and Peruvians; which cannot fail to amuſe the reader, as he will find theſe two nations differing eſſentially from the North-American tribes, in every article of manners, government, and police.

When the Spaniards invaded America, the Mexicans were ſkilful in agriculture. Maize was

their chief grain, which by good culture produced great plenty, even in the mountainous country of Tlaſcalla. They had gardening and botany, as well as agriculture; a phyſic-garden belonging to the Emperor was open to every one for gathering medicinal plants.

The art of cookery was far advanced among that people. Montezuma's table was for ordinary covered with 200 diſhes, many of them exquiſitely dreſſed in the opinion even of the Spaniards. They uſed ſalt, which was made with the ſun.

The women were dexterous at ſpinning; and manufactures of cotton and hair abounded every where.

The populouſneſs of Mexico and Peru afford irrefragable evidence, that the arts of peace were there carried to a great height. The city of Mexico contained 60,000 families[*]; and Montezuma had thirty vaſſals who could bring into the field, each of them, 100,000 fighting men. Tlaſcalla, a neighbouring republic, governed by a ſenate, was ſo populous as to be almoſt a match for the Emperor of Mexico. The public edifices in the city of Mexico and houſes of the nobility, were of ſtone, and well built. The royal palace had thirty gates opening to as many ſtreets. The principal front was of jaſper, black, red, and white, well poliſhed. Three

[*] We cannot altogether rely on what is reported of this ancient empire with reſpect to numbers. The city of Mexico, though conſiderably enlarged ſince the Spaniſh conqueſt, doth not at preſent contain more than 60,000 ſouls, including 20,000 Negroes and Mulattoes.

ſquares, built and adorned like the front, led to Montezuma's apartment, having large rooms, floors covered with mats of different kinds, walls hung with a mixture of cotton-cloath and rabbit-furs; the innermoſt room adorned with hangings of feathers, beautified with various figures in lively colors. In that building, large ceilings were formed ſo artificially without nails, as to make the planks ſuſtain each other. Water was brought into the city of Mexico, from a mountain at a league's diſtance.

Gold and ſilver were in ſo high eſteem, that veſſels made of theſe metals were permitted to none but to the Emperor. Conſidering the value put upon gold and ſilver, the want of current coin would argue great dulneſs in that nation, if inſtances did not daily occur of improvements, after being carried to a conſiderable height, ſtopping ſhort at the very threſhold of perfection. The want of current coin made fairs the more neceſſary, which were carried on with the moſt perfect regularity: judges on the ſpot decided mercantile differences; and inferior officers, making conſtant circuits, preſerved peace and order. The abundance and variety of the commodities brought to market, and the order preſerved by ſuch multitudes, amazed the Spaniards; a ſpectacle deſerving admiration, as a teſtimony of the grandeur and good government of that extenſive empire.

The fine arts were not unknown in Mexico. Their goldſmiths were excellent workmen particularly in moulding gold and ſilver into the form of animals. Their painters made landſcapes and other

imitations of nature, with feathers ſo artfully mixed as to beſtow both life and coloring; of which ſort of work, there were inſtances no leſs extraordinary for patience than for ſkill. Their drinking-cups were of the fineſt earth exquiſitely made, differing from each other in color, and even in ſmell. Of the ſame materials, they made great variety of veſſels both for uſe and ornament.

They were not ignorant either of muſic or of poetry; and one of their capital amuſements was ſongs ſet to muſic relating the achievements of their kings and anceſtors.

With ſuch a progreſs both in the uſeful and fine arts, is it not ſurpriſing, that though they had meaſures, they knew nothing of weights?

As to the art of writing, it was no farther advanced than the uſing figures compoſed of painted feathers, by which they made a ſhift to communicate ſome ſimple thoughts; and in that manner was Montezuma informed of the Spaniſh invaſion.

There was great ingenuity ſhown in regulating the calendar: the Mexican year was divided into 365 days; and into 18 months, containing 20 days each, which made 360; the remaining five intercalary days were added at the end of the year, for making it correſpond to the courſe of the ſun. They religiouſly employed theſe five days upon diverſions, being of opinion that they were appropriated to that end by their anceſtors.

Murder, theft, and corruption in officers of ſtate were capital crimes. Adultery alſo was capital; for female chaſtity was in high eſtimation. At the ſame

time, consent was deemed a sufficient cause of divorce, the law leaving it to the parties concerned, who ought to be the best judges. In case of a divorce, the father took care of the male children, leaving the female children with the mother. But to prevent rash separations, it was capital for them to unite again.

It may be gathered from what has been said, that there was a distinction of rank among the Mexicans. So strictly was it observed, as to be displayed even in their buildings: the city of Mexico was divided into two parts, one appropriated to the Emperor and nobility, and one left to plebeians.

Education of children was an important article in the Mexican police. Public schools were allotted for plebeian children; and colleges well endowed for the sons of the nobility, where they continued till they were fit for business. The masters were considered as officers of state; not without reason, as their office was to qualify young men for serving their king and country. Such of the young nobles as made choice of a military life, were sent to the army, and made to suffer great hardships before they could be inlisted. They had indeed a powerful motive for perseverance, the most honorable of all employments being that of a soldier. Young women of quality were educated with no less care, by proper matrons chosen with the utmost circumspection.

As hereditary nobility and an extensive empire, lead both of them to monarchy, the government of Mexico was monarchical; and as the progress of monarchy is from being elective to

be hereditary, Mexico had advanced no farther than to be an elective monarchy, of which Montezuma was the eleventh king. And it was an example of an elective monarchy that approached the nearest to hereditary; for the power of election as well as the privilege of being elected, were confined to the princes of the blood royal. As a talent for war was chiefly regarded in chusing a successor to the throne, the Mexican kings always commanded their own armies. The Emperor-elect, before his coronation, was obliged to make some conquest, or perform some warlike exploit; a custom that supported the military spirit, and enlarged the kingdom. From every king was exacted a coronation-oath, to adhere to the religion of his ancestors, to maintain the laws and customs of the empire, and to be a father to his people.

Matters of government were distributed among different boards with great propriety. The management of the royal patrimony was allotted to one board; appeals from inferior tribunals, to another; the levying of troops and the providing of magazines, to a third: affairs of supreme importance were reserved to a council of state, held commonly in the King's presence. These boards, all of them, were composed of men experienced in the arts of war and of peace: the council of state was composed of those who elected the Emperor.

Concerning the patrimony of the crown, mines of gold and silver belonged to the Emperor; and the duty on salt brought in a great revenue. But the capital duty was a third of the land-rents, the

ſtates of the nobles excepted; upon whom no tribute was impoſed, but to ſerve in the army with a number of their vaſſals, and to guard the Emperor's perſon. Goods manufactured and ſold were ſubjected to a duty; which was not prejudicial to their manufactures, becauſe there was no rival nation within reach.

Montezuma introduced a multitude of ceremonies into his court, tending to inſpire veneration for his perſon; an excellent artifice in rude times, of however little ſignificancy among nations enlightened and rational. Veneration and humility were ſo much the tone of the court, that it was even thought indecent in the Mexican lords, to appear before the King in their richeſt habits. Veſſels of gold and ſilver were appropriated to his table, and not permitted even to the princes of the blood. The table-cloths and napkins, made of the fineſt cotton, with the earthen ware, never made a ſecond appearance at the Emperor's table, but were diſtributed among the ſervants.

In war, their offenſive weapons were bows and arrows; and as iron was not known in America, their arrows were headed with bones ſharpened at the point. They uſed alſo darts and long wooden ſwords, in which were fixed ſharp flints; and men of more than ordinary ſtrength fought with clubs. They beſide had ſlingers, who threw ſtones with great force and dexterity. Their defenſive arms, uſed only by commanders and perſons of diſtinction, were a coat of quilted cotton, a ſort of breaſt-plate, and a ſhield of wood or tortoiſe-ſhell, adorned

with plates of such metal as they could procure. The private men fought naked; their faces and bodies being deformed with paint, in order to strike terror. They had warlike instruments of music, such as sea-shells, flutes made of large canes, and a sort of drum made of the trunk of a tree hollowed. Their battalions consisted of great numbers crowded together, without even the appearance of order. They attacked with terrible outcries in order to intimidate the enemy; a practice prompted by nature, and formerly used by many nations. It was not despised even by the Romans; for Cato the elder was wont to say, that he had obtained more victories by the throats of his soldiers, than by their swords; and Cæsar applauds his own soldiers, above those of Pompey, for their warlike shouts. Eagerness to engage is vented in loud cries: and the effects are excellent: they redouble the ardor of those who attack, and strike terror into the enemy.

Their armies were formed with ease: the princes of the empire, with the cacics or governors of provinces, were obliged to repair to the general rendezvous, each with his quota of men.

Their fortifications were trunks of large trees, fixed in the ground like palisades, leaving no intervals but what were barely sufficient for discharging their arrows upon the enemy.

Military orders were instituted, with peculiar habits as marks of distinction and honor; and each cavalier bore the device of his order, painted upon his robe, or fixed to it. Montezuma founded a

w order of knighthood, into which princes only ere admitted, or nobles deſcended from the royal ock; and as a token of its ſuperiority, he became e of its members. The knights of that order d part of their hair bound with a red ribbon, which a taſſel was fixed hanging down to the oulder. Every new exploit was honored with additional taſſel; which made the knights with dor embrace every opportunity to ſignalize themlves. As nothing can be better contrived than ch a regulation for ſupporting a military ſpirit, e Mexicans would have been invincible had they derſtood the order of battle: for want of which at potent empire fell a prey to a handful of rangers. I differ from thoſe who aſcribe that vent to the fire-arms of the Spaniards, and to eir horſes. Theſe could not be more terrible to e Mexicans, than elephants were at firſt to the Romans: but familiarity with theſe unwieldy animals, reſtored to the Romans their wonted courage; nd the Mexicans probably would have behaved ike the Romans, had they equalled the Romans n the art of war.

When that illuſtrious people, by their own genius without borrowing from others, had made ſuch proficiency in the arts of peace, as well as of war; is it not ſtrange, that with reſpect to religion they were no better than ſavages? They not only practiſed human ſacrifices, but dreſſed and ate the fleſh of thoſe that were ſacrificed. Their great temple was contrived to raiſe horror: upon the walls were crowded the figures of noxious ſerpents; the heads

of perſons ſacrificed were ſtuck up in different places and carefully renewed when waſted by time. There were eight temples in the city, neatly of the same architecture; 2000 of a ſmaller ſize, dedicated to different idols; ſcarce a ſtreet without a tutelar deity; nor a calamity that had not an altar, to which the diſtreſſed might have recourſe for a remedy. Unparalleled ignorance and ſtupidity obliged every Emperor, at his coronation, to ſwear, that there ſhould be no unſeaſonable rains, no overflowing of rivers, no fields affected with ſterility, nor any man hurt with the bad influences of the ſun. In ſhort, it was a ſlaviſh religion, built upon fear, not love. At the ſame time, they believed the immortality of the ſoul, and rewards and puniſhments in a future ſtate; which made them bury with their dead, quantities of gold and ſilver for defraying the expenſe of their journey; and alſo made them put to death ſome of their ſervants to attend them. Women ſometimes, actuated with the ſame belief, were authors of their own death, in order to accompany their huſbands.

The author we chiefly rely on for an account of Peru is Garcilaſſo de la Vega: though he may be juſtly ſuſpected of partiality; for, being of the Inca race, he beſtows on the Peruvian government, improvements of later times. The articles that appear the leaſt ſuſpicious are what follow.

The principle of the Peruvian conſtitution ſeems to have been an Agrarian law of the ſtricteſt kind. To the ſovereign was firſt allotted a large proportion of land, for defraying the expenſes of government;

d the remainder was divided among his ſubjects, proportion to the number of each family. Theſe ortions were not alienable: the ſovereign was eld proprietor of the whole, as in the feudal ſtem; and from time to time the diſtribution was aried according to the circumſtances of families. his Agrarian law contributed undoubtedly to the opulouſneſs of the kingdom of Peru.

It is a ſure ſign of improved agriculture, that queducts were made by the Peruvians for watering heir land. Their plough was of wood, a yard ong, flat before, round behind, and pointed at he end for piercing the ground. Agriculture ſeems o have been carried on by united labor: lands ppropriated for maintaining the poor were firſt loughed; next the portion allotted to ſoldiers perorming duty in the field; then every man ſeparately loughed his own field; after which he aſſiſted his neighbour: they proceeded to the portion of the Curaca or lord; and laſtly to the King's portion. In the month of March they reaped their maize, and celebrated the harveſt with joy and feaſting.

There being no artiſt nor manufacturer by profeſſion, individuals were taught to do every thing for themſelves. Every one knew how to plough and manure the land: every one was a carpenter, a maſon, a ſhoemaker, a weaver, &c.; and the women were the moſt ingenious and diligent of all. Blas Valera mentions a law, named *the law of brotherhood*, which, without the proſpect of reward, obliged them to be mutually aiding and aſſiſting in ploughing, ſowing, and reaping, in

building their houſes, and in every ſort of occupation.

As the art was unknown of melting down metals by means of bellows, long copper pipes were contrived, contracted at the end next the fire, that the breath might act the more forcibly on it; and they uſed ten or twelve of theſe pipes together, when they wanted a very hot fire. Having no iron, their hatches and pick-axes were of copper; they had neither ſaw nor augre, nor any inſtrument that requires iron: ignorant of the uſe of nails, they tied their timber with cords of hemp. The tool they had for cutting ſtone, was a ſharp flint; and with that tool they ſhaped the ſtone by continual rubbing, more than by cutting. Having no engines for raiſing ſtones, they did all by ſtrength of arm. Theſe defects notwithſtanding, they erected great edifices; witneſs the fortreſs of Cuſco, a ſtupendous fabric. It paſſes all underſtanding, by what means the ſtones, or rather great rocks, employed in that building, were brought from the quarry. One of theſe ſtones, meaſured by Acoſta, was thirty feet in length, eighteen in breadth, and ſix in thickneſs.

Having neither ſciſſars nor needles of metal, they uſed a certain long thorn for a needle. The mirrors uſed by ladies of quality were of burniſhed copper: but ſuch implements of dreſs were reckoned too effeminate for men.

With reſpect to muſic, they had an inſtrument of hollow canes glewed together, the notes of which were like thoſe of an organ. They had love-

ſongs

ongs accompanied with a pipe; and war-ſongs, which were their feſtival entertainment. They compoſed and acted comedies and tragedies. The rt of writing was unknown: but ſilken threads, with knots caſt upon them of divers colors, enabled hem to keep exact accounts, and to ſum them up, with a readineſs that would have rivalled an expert European arithmetician. They had alſo attained to s much geometry as to meaſure their fields.

In war, their offenſive arms were the bow and rrow, lance, dart, club, and bill. Their defenſive rms, were the helmet and target. The army was rovided from the King's ſtores, and no burden was laid on the people.

In philoſophy, they had made no progreſs. An eclipſe of the moon was attributed to her being ick; and they fancied the milky way to be a ewe giving ſuck to a lamb. With regard to the ſetting un, they ſaid, that he was a good ſwimmer, and hat he pierced through the waves, to riſe next morning in the eaſt. But ſuch ignorance is not wonderful; for no branch of ſcience can make a progreſs without writing.

The people were divided into ſmall bodies of ten families each: every diviſion had a head, and a regiſter was kept of the whole; a branch of public police, that very much reſembles the Engliſh decennaries.

They made but two meals, one between eight and nine in the morning, the other before ſunſet. Idleneſs was puniſhed with infamy; even children were employed according to their capacity. Public

viſitors or monitors were appointed, having acceſs to every houſe, for inſpecting the manners of the inhabitants; who were rewarded or puniſhed according to their behaviour. Moderation and induſtry were ſo effectually enforced by this article of police, that few were reduced to indigence; and theſe got their food and clothing out of the King's ſtores.

With reſpect to their laws and cuſtoms, children were bound to ſerve their parents until the age of twenty-five; and marriage contracted before that time, without conſent of parents, was null. Polygamy was prohibited, and perſons were confined to marry within their own tribe. The tradition, that the Inca family were children of the ſun, introduced inceſt among them; for it was a matter of religion to preſerve their divine blood pure, without mixture.

It was the chief article of the Peruvian creed, upon which every other article of their religion depended, that the Inca family were children of their great god the ſun, and ſent by him to ſpread his worſhip and his laws among them. Nothing could have a greater influence upon an ignorant and credulous people, than ſuch a doctrine. The ſanctity of the Inca family was ſo deeply rooted in the hearts of the Peruvians, that no perſon of that family was thought capable of committing a crime. Such blind veneration for a family, makes it probable, that the government of Peru under the Incas had not ſubſiſted many years; for a government founded upon deceit and ſuperſtition,

annot long ſubſiſt in vigor. However that be, uch belief of the origin of the Incas, is evidence f great virtue and moderation in that family; for ny groſs act of tyranny or injuſtice, would have pened the eyes of the people to ſee their error. Moderation in the ſovereign and obedience without eſerve in the ſubjects, cannot fail to produce a govern- nent mild and gentle; which was verified in that f Peru; ſo mild and gentle, that to manure and ultivate the lands of the Inca and to lay up the roduce in ſtorehouſes, were the only burdens im- poſed upon the people, if it was not ſometimes to make clothes and weapons for the army. At the ame time, their kings were ſo revered, that theſe rticles of labor were performed with affection and lacrity.

The government was equally gentle with regard to puniſhments. Indeed very few crimes were committed, being conſidered as a ſort of rebellion againſt their great god the ſun. The only crime that ſeems to have been puniſhed with ſeverity, is the marauding of ſoldiers; for death was inflicted, however inconſiderable the damage.

In this empire, there appears to have been the moſt perfect union between law and religion; which could not fail to produce obedience, order, and tranquillity, among that people, though extremely numerous. The Inca family was famed for mode- ration: they made conqueſts in order to civilize their neighbours; and as they ſeldom if ever tranſ- greſſed the bounds of morality, no other art was neceſſary to preſerve the government entire, but

to keep the people ignorant of true religion. They had virgins dedicated to the ſun, who, like the veſtal virgins in Rome, were under a vow of perpetual chaſtity.

This ſubject ſhall be concluded with ſome ſlight obſervations on the two governments I have been deſcribing. Comparing them together, the Mexican government ſeems to have been ſupported by arms; that of Peru by religion.

The kings of Peru were hereditary and abſolute: thoſe of Mexico elective. In contradiction however to political principles, the government of Peru was by far the milder. It is mentioned above, that the electors of the Mexican kings were hereditary princes; and the ſame electors compoſed the great council of ſtate. Monteſquieu therefore has been miſinformed when he terms this a deſpotic monarchy [1]: a monarchy can never be deſpotic, where the ſovereign is limited by a great council, the members of which are independent of him. As little reaſon has he to term Peru deſpotic. An abſolute monarchy it was, but the fartheſt in the world from being deſpotic: on the contrary, we find not in hiſtory any government ſo well contrived for the good of the people. An Agrarian law, firmly rooted, was a firm bar againſt ſuch inequality of rank and riches, as lead to luxury and diſſolution of manners: a commonwealth is naturally the reſult of ſuch a conſtitution; but in Peru it was prevented by a theocratical government under a family ſent from heaven to make them happy. This wild

[1] L'Eſprit des lois, liv. 17. ch. 2.

opinion, ſupported by ignorance and ſuperſtition, proved an effectual bar againſt tyranny in the monarch; a moſt exemplary conduct on his part being neceſſary for ſupporting the opinion of his divinity. Upon the whole, comprehending king and ſubject, there perhaps never exiſted more virtue in any other government, whether monarchical or republican.

In Peru there are traces of ſome diſtinction of ranks, ariſing probably from office merely, which, as in France, was a bulwark to the monarch againſt the peaſants. The great ſuperiority of the Peruvian Incas, as demi-gods, did not admit a hereditary nobility.

With reſpect to the progreſs of arts and manufactures, the two nations differed widely: in Mexico, arts and manufactures were carried to a ſurpriſing height, conſidering the tools they had to work with: in Peru, they had made no progreſs; every man, as among mere ſavages, providing the neceſſaries of life for himſelf. As the world goes at preſent, our multiplied wants require ſuch numbers, that not above one of a hundred can be ſpared for war. In ancient times, when theſe wants were few and not much enlarged beyond nature, it is computed that an eighth part could be ſpared for war: and hence the numerous armies we read of in the hiſtory of ancient nations. The Peruvians had it in their power to go ſtill farther: it was poſſible to arm the whole males capable of ſervice: leaving the women to ſupply the few neceſſaries that might be wanted during a ſhort campaign;

and accordingly we find that the Incas were great conquerors.

The religion of the Peruvians, considered in a political light, was excellent. The veneration they paid their ſovereign upon a falſe religious principle, was their only ſuperſtition; and that ſuperſtition contributed greatly to improve their morals and their manners: on the other hand, the religion of Mexico was execrable.

Upon the whole, there never was a country deſtitute of iron, where arts ſeem to have been carried higher than in Mexico; and, bating their religion, there never was a country deſtitute of writing, where government ſeems to have been more perfect. I except not the government of Peru, which, not being founded on political principles, but on ſuperſtition, might be more mild, but was far from being ſo ſolidly founded.

# SKETCHES

## OF THE

# HISTORY OF MAN.

## BOOK III.

### PROGRESS OF SCIENCES.

## PREFACE.

*Morality, Theology, and the Art of Reaſoning, are three great branches of a learned education; and juſtly held to be ſo, being our only ſure guides in paſſing through the intricate paths of life. They are indeed not eſſential to thoſe termed* men of the world: *the moſt profound philoſopher makes but an inſipid figure in faſhionable company: would be ſomewhat ridiculous at a court-ball; and an abſolute abſurdity among the gameſters at Arthur's, or jockeys at Newmarket. But, theſe cogent objections notwithſtanding, I venture to pronounce ſuch ſtudies to be not altogether unſuitable to a gentleman. Man is a creature*

*full of curiosity; and to gratify that appetite, many roam through the world submitting to heat and cold, nay to hunger and thirst, without a sigh. Could indeed that troublesome guest be expelled, we might hug ourselves in ignorance; and, like true men of the world, undervalue knowledge that cannot procure money, nor a new sensual pleasure. But, alas! the expulsion is not in the power of every one; and those who must give vent to their curiosity, will naturally employ it upon studies that make them good members of society, and endear them to every person of virtue.*

*And were we even men of the world in such perfection, as to regard nothing but our own interest; yet does not ignorance lay us open to the crafty and designing? and does not the art of reasoning guard many an honest man from being misled by subtile sophisms? With respect to right and wrong, not even passion is more dangerous than error. And as to religion, better it were to settle in a conviction that there is no God, than to be in a state of wavering and fluctuation, sometimes indulging every loose desire, as if we were not accountable beings; and sometimes yielding to superstitious fears, as if there were no god but the devil. To a well-disposed mind, the existence of a supreme benevolent Deity, appears highly probable: and if by the study of theology that probability be improved into a certainty, the conviction of a supreme Deity who rules with equity and mildness, will be a source of constant enjoyment, which I boldly set above the titillating pleasures of external sense. Possibly there may be less pre-*

*ſent amuſement in abſtract ſtudies, than in newſpapers, in party-pamphlets, or in Hoyl upon Whiſt: but let us for a moment anticipate futurity, and imagine that we are reviewing paſt tranſactions, — how pleaſant the retroſpect of thoſe who have maintained the dignity of their nature, and employed their talents to the beſt purpoſes!*

*Contradictory opinions that have influence on practice, will be regretted by every perſon of a ſound heart: and as erroneous opinions are commonly the reſult of imperfect education, I would gladly hope, that a remedy is not altogether out of reach. At the revival of arts and ſciences, the learned languages were our ſole ſtudy, becauſe in them were locked up all the treaſures of uſeful knowledge. This ſtudy has long ago ceaſed to be the chief object of education; and yet the original plan is handed down to us with very little variation. Wiſhing to contribute to a more perfect ſyſtem of education, I preſent to the public the following Sketches. The books that have been publiſhed on morality, theology, and the art of reaſoning, are not eminent either for ſimplicity, or for perſpicuity. To introduce theſe into the ſubjects mentioned, is my aim; with what ſucceſs is with deference ſubmitted to the judgment of others. The hiſtorical part, hitherto much neglected, is neceſſary as a branch of my general plan: and I am hopeful, that, beſide inſtruction, it will contribute to recreation, which, in abſtract ſtudies, is no leſs neceſſary than pleaſant.*

# SECTCH I.

## *Principles and Progreſs of Reaſon.*

## SECTION I.

### *Principles of Reaſon.*

Affirmation is that ſort of expreſſion which the ſpeaker uſes, when he deſires to be believed. What he affirms is termed a *propoſition.*

Truth and error are qualities of propoſitions. A propoſition that ſays a thing is what it is in reality, is termed a *true propoſition.* A propoſition that ſays a thing is what it is not in reality, is termed an *erroneous propoſition.*

Truth is ſo eſſential in conducting affairs, that man would be a disjointed being were it not agreeable to him. Truth accordingly is agreeable to every human being, and falſhood or error diſagreeable. The purſuit of truth is no leſs pleaſant than the purſuit of any other good [1].

[1] It has been wiſely obſerved, that truth is the ſame to the underſtanding that muſic is to the ear, or beauty to the eye.

Our knowledge of what is agreeable and diſagreeable in objects is derived from the ſenſe of beauty, handled in Elements of Criticiſm. Our knowledge of right and wrong in actions, is derived from the moral ſenſe, to be handled in the ſketch immediately following. Our knowledge of truth and error is derived from various ſources.

Our external ſenſes are one ſource of knowledge: they lay open to us external ſubjects, their qualities, their actions, with events produced by theſe actions. The internal ſenſes are another ſource of knowledge: they lay open to us things paſſing in the mind; thinking, for example, deliberating, inclining, reſolving, willing, conſenting, and other acts; and they alſo lay open to us our emotions and paſſions. There is a ſenſe by which we perceive the truth of many propoſitions; ſuch as, That every thing which begins to exiſt muſt have a cauſe; That every effect adapted to ſome end or purpoſe, proceeds from a deſigning cauſe; and, That every effect adapted to a good end or purpoſe, proceeds from a deſigning and benevolent cauſe. A multitude of axioms in every ſcience, particularly in mathematics, are equally perceived to be true. By a peculiar ſenſe, of which afterward, we know that there is a Deity. There is a ſenſe by which we know, that the external ſigns of paſſion are the ſame in all men; that animals of the ſame external appearance, are of the ſame ſpecies, and that animals of the ſame ſpecies, have the ſame properties[1],

[1] Preliminary Diſcourſe.

There is a ſenſe that dives into futurity: we know that the ſun will riſe to-morrow; that the earth will perform its wonted courſe round the ſun; that winter and ſummer will follow each other in ſucceſſion; that a ſtone dropt from the hand will fall to the ground; and a thouſand other ſuch propoſitions.

There are many propoſitions, the truth of which is not ſo apparent: a proceſs of reaſoning is neceſſary, of which afterward.

Human teſtimony is another ſource of knowledge. So framed we are by nature, as to rely on human teſtimony; by which we are informed of beings, attributes, and events, that never came under any of our ſenſes.

The knowledge that is derived from the ſources mentioned, is of different kinds. In ſome caſes, our knowledge includes abſolute certainty, and produces the higheſt degree of conviction: in other caſes, probability comes in place of certainty, and the conviction is inferior in degree. Knowledge of the latter kind is diſtinguiſhed into belief, which concerns facts; and opinion, which concerns relations, and other things that fall not under the denomination of facts. In contradiſtinction to opinion and belief, that ſort of knowledge which includes abſolute certainty, and produces the higheſt degree of conviction, retains its proper name. To explain what is here ſaid, I enter into particulars.

The ſenſe of ſeeing, with very few exceptions, affords knowledge properly ſo termed: it is not in our power to doubt of the exiſtence of a perſon

we ſee, touch, and converſe with. When ſuch is our conſtitution, it is a vain attempt to call in queſtion the authority of our ſenſe of ſeeing, as ſome writers pretend to do. No one ever called in queſtion the exiſtence of internal actions and paſſions, laid open to us by internal ſenſe; and there is as little ground for doubting of what we ſee. The ſenſe of ſeeing, it is true, is not always correct: through different mediums the ſame object is ſeen differently: to a jaundiced eye every thing appears yellow; and to one intoxicated with liquor, two candles ſometimes appear four. But we are never left without a remedy in ſuch a caſe: it is the province of the reaſoning faculty to correct every error of that kind.

An object of ſight recalled to mind by the power of memory, is termed an *idea* or ſecondary perception. An original perception, as ſaid above, affords knowledge in its proper ſenſe; but a ſecondary perception affords belief only. And Nature in this, as in all other inſtances, is faithful to truth; for it is evident, that we cannot be ſo certain of the exiſtence of an object in its abſence, as when preſent.

With reſpect to many abſtract propoſitions, of which inſtances are above given, we have an abſolute certainty and conviction of their truth, derived to us from various ſenſes. We can, for example, entertain as little doubt that every thing which begins to exiſt muſt have a cauſe, as that the ſun is in the firmament; and as little doubt that he will riſe to-morrow, as that he is now ſet.

There are many other propoſitions, the truth of which is probable only, not abſolutely certain; as, for example, that winter will be cold and ſummer warm. That natural operations are performed in the ſimpleſt manner, is an axiom of natural philoſophy: it may be probable, but is far from being certain [1].

In every one of the inſtances given, conviction ariſes from a ſingle act of perception: for which reaſon, knowledge acquired by means of that perception, not only knowledge in its propet ſenſe but alſo opinion and belief, are termed *intuitive knowledge*. But there are many things, the knowledge of which is not obtained with ſo much facility. Propoſitions for the moſt part require a proceſs or operation in the mind, termed *reaſoning*; leading, by certain intermediate ſteps, to the propoſition that is to be demonſtrated or made evident; which, in oppoſition to intuitive knowledge, is termed *diſcurſive knowledge*. This proceſs or operation muſt be explained, in order to underſtand

[1] I have given this propoſition a place, becauſe it is aſſumed as an axiom by all writers on natural philoſophy. And yet there appears ſome room for doubting, whether our conviction of it do not proceed from a bias in our nature, rather than from an original ſenſe. Our taſte for ſimplicity, which undoubtedly is natural, renders ſimple operations more agreeable than what are complex, and conſequently makes them appear more natural. It deſerves a moſt ſerious diſcuſſion, whether the operations of nature be always carried on with the greateſt ſimplicity, or whether we be not miſled by our taſte for ſimplicity to be of that opinion.

the nature of reaſoning. And as reaſoning is moſtly employed in diſcovering relations, I ſhall draw my examples from them. Every propoſition concerning relations, is an affirmation of a certain relation between two ſubjects. If the relation affirmed appear not intuitively, we muſt ſearch for a third ſubject, intuitively connected with each of the others by the relation affirmed: and if ſuch a ſubject be found, the propoſition is demonſtrated; for it is intuitively certain, that two ſubjects connected with a third by any particular relation, muſt be connected together by the ſame relation. The longeſt chain of reaſoning may be linked together in this manner. Running over ſuch a chain, every one of the ſubjects muſt appear intuitively to be connected with that immediately preceding, and with that immediately ſubſequent, by the relation affirmed in the propoſition; and from the whole united, the propoſition, as above mentioned, muſt appear intuitively certain. The laſt ſtep of the proceſs is termed *a concluſion*, being the laſt or concluding perception.

No other reaſoning affords ſo clear a notion of the foregoing proceſs, as that which is mathematical. Equality is the only mathematical relation; and compariſon therefore is the only means by which mathematical propoſitions are aſcertained. To that ſcience belong a number of intuitive propoſitions, termed *axioms*, which are all founded on equality. For example: Divide two equal lines, each of them, into a thouſand equal parts, a ſingle part of the one line muſt be equal to a

ſingle part of the other. Second: Take ten of theſe parts from the one line, and as many from the other, and the remaining parts muſt be equal; which is more ſhortly expreſſed thus: From two equal lines take equal parts, and the remainders will be equal; or add equal parts, and the ſums will be equal. Third: If two things be, in the ſame reſpect, equal to a third, the one is equal to the other in the ſame reſpect. I proceed to ſhow the uſe of theſe axioms. Two things may be equal without being intuitively ſo; which is the caſe of the equality between the three angles of a triangle and two right angles. To demonſtrate that truth, it is neceſſary to ſearch for ſome other angles that intuitively are equal to both. If this property cannot be diſcovered in any one ſet of angles, we muſt go more leiſurely to work, and try to find angles that are equal to the three angles of a triangle. Theſe being diſcovered, we next try to find other angles equal to the angles now diſcovered; and ſo on in the compariſon, till at laſt we diſcover a ſet of angles, equal not only to thoſe thus introduced, but alſo to two right angles. We thus connect the two parts of the original propoſition, by a number of intermediate equalities; and by that means perceive, that theſe two parts are equal among themſelves; it being an intuitive propoſition, as mentioned above, That two things are equal, each of which, in the ſame reſpect, is equal to a third.

I proceed to a different example, which concerns the relation between cauſe and effect. The propoſition

poſition to be demonſtrated is, "That there exiſts "a good and intelligent Being, who is the cauſe "of all the wiſe and benevolent effects that are "produced in the government of this world." That there are ſuch effects, is in the preſent example the fundamental propoſition; which is taken for granted, becauſe it is verified by experience. In order to diſcover the cauſe of theſe effects, I begin with an intuitive propoſition mentioned above; "That every effect adapted to a good end or "purpoſe, proceeds from a deſigning and bene-"volent cauſe." The next ſtep is, to examine whether man can be the cauſe: he is provided indeed with ſome ſhare of wiſdom and benevolence; but the effects mentioned are far above his power, and no leſs above his wiſdom. Neither can this earth be the cauſe, nor the ſun, the moon, the ſtars; for, far from being wiſe and benevolent, they are not even ſenſible. If theſe be excluded, we are unavoidably led to an inviſible being, endowed with boundleſs power, goodneſs, and intelligence; and that inviſible being is termed *God*.

Reaſoning requires two mental powers, namely, the power of invention, and the power of perceiving relations. By the former are diſcovered intermediate propoſitions, equally related to the fundamental propoſition and to the concluſion: by the latter we perceive, that the different links which compoſe the chain of reaſoning, are all connected together by the ſame relation.

We can reaſon about matters of opinion and belief, as well as about matters of knowledge

properly ſo termed. Hence reaſoning is diſtinguiſhed into two kinds; demonſtrative, and probable. Demonſtrative reaſoning is alſo of two kinds: in the firſt, the concluſion is drawn from the nature and inherent properties of the ſubject: in the other, the concluſion is drawn from ſome principle, of which we are certain by intuition. With reſpect to the firſt, we have no ſuch knowledge of the nature or inherent properties of any being, material or immaterial, as to draw concluſions from it with certainty. I except not even figure conſidered as a quality of matter, though it is the object of mathematical reaſoning. As we have no ſtandard for determining with preciſion the figure of any portion of matter, we cannot with preciſion reaſon upon it: what appears to us a ſtraight line may be a curve, and what appears a rectilinear angle may be curvilinear. How then comes mathematical reaſoning to be demonſtrative? This queſtion may appear at firſt ſight puzzling; and I know not that it has any where been diſtinctly explained. Perhaps what follows may be ſatisfactory.

The ſubjects of arithmetical reaſoning are numbers. The ſubjects of mathematical reaſoning are figures. But what figures? Not ſuch as I ſee; but ſuch as I form an idea of, abſtracting from every imperfection. I explain myſelf. There is a power in man to form images of things that never exiſted; a golden mountain, for example, or a river running upward. This power operates upon figures: there is perhaps no figure exiſting the ſides of which are ſtraight lines; but it is eaſy to form

an idea of a line that has no waving or crookedneſs, and it is eaſy to form an idea of a figure bounded by ſuch lines. Such ideal figures are the ſubjects of mathematical reaſoning; and theſe being perfectly clear and diſtinct, are proper ſubjects for demonſtrative reaſoning of the firſt kind. Mathematical reaſoning however is not merely a mental entertainment: it is of real uſe in life, by directing us to operate upon matter. There poſſibly may not be found any where a perfect globe, to anſwer the idea we form of that figure: but a globe may be made ſo near perfection, as to have nearly the properties of a perfect globe. In a word, though ideas are, properly ſpeaking, the ſubject of mathematical evidence; yet the end and purpoſe of that evidence is, to direct us with reſpect to figures as they really exiſt; and the nearer any real figure approaches to its ideal perfection, with the greater accuracy will the mathematical truth be applicable.

The component parts of figures, viz. lines and angles, are extremely ſimple, requiring no definition. Place before a child a crooked line, and one that has no appearance of being crooked: call the former a *crooked line*, the latter a *ſtraight line*; and the child will uſe theſe terms familiarly, without hazard of a miſtake. Draw a perpendicular upon paper: let the child advert, that the upward line leans neither to the right nor the left, and for that reaſon is termed a *perpendicular*: the child will apply that term familiarly to a tree, to the wall of a houſe, or to any other perpendicular. In the ſame manner, place before the child two

lines diverging from each other, and two that have no appearance of diverging: call the latter *parallel lines*, and the child will have no difficulty of applying the ſame term to the ſides of a door or of a window. Yet ſo accuſtomed are we to definitions, that even theſe ſimple ideas are not ſuffered to eſcape. A ſtraight line, for example, is defined to be the ſhorteſt that can be drawn between two given points. Is it ſo, that even a man, not to talk of a child, can have no idea of a ſtraight line till he be told that the ſhorteſt line between two points is a ſtraight line? How many talk familiarly of a ſtraight line who never happened to think of that fact, which is an inference only, not a definition. If I had not beforehand an idea of a ſtraight line, I ſhould never be able to find out, that it is the ſhorteſt that can be drawn between two points. D'Alembert ſtrains hard, but without ſucceſs, for a definition of a ſtraight line, and of the others mentioned. It is difficult to avoid ſmiling at his definition of parallel lines. Draw, ſays he, a ſtraight line: erect upon it two perpendiculars of the ſame length: upon their two extremities draw another ſtraight line; and that line is ſaid to be parallel to the firſt mentioned; as if, to underſtand what is meant by the expreſſion *two parallel lines*, we muſt firſt underſtand what is meant by a ſtraight line, by a perpendicular, and by two lines equal in length. A very ſlight reflection upon the operations of his own mind, would have taught this author, that he could form the idea of parallel lines without running through ſo many intermediate

ſteps: ſight alone is ſufficient to explain the term to a boy, and even to a girl. At any rate, where is the neceſſity of introducing the line laſt mentioned? If the idea of parallels cannot be obtained from the two perpendiculars alone, the additional line drawn through their extremities will certainly not make it more clear.

Mathematical figures being in their nature complex, are capable of being defined; and from the foregoing ſimple ideas, it is eaſy to define every one of them. For example, a circle is a figure having a point within it, named the *centre*, through which all the ſtraight lines that can be drawn, and extended to the circumference, are equal; a ſurface bounded by four equal ſtraight lines, and having four right angles, is termed a *ſquare*, and a cube is a ſolid, of which all the ſix ſurfaces are ſquares.

In the inveſtigation of mathematical truths, we aſſiſt the imagination, by drawing figures upon paper that reſemble our ideas. There is no neceſſity for a perfect reſemblance: a black ſpot, which in reality is a ſmall round ſurface, ſerves to repreſent a mathematical point; and a black line, which in reality is a long narrow ſurface, ſerves to repreſent a mathematical line. When we reaſon about the figures compoſed of ſuch lines, it is ſufficient that theſe figures have ſome appearance of regularity: leſs or more is of no importance; becauſe our reaſoning is not founded upon them, but upon our ideas. Thus, to demonſtrate that the three angles of a triangle are equal to two right angles, a triangle is drawn upon paper, in

order to keep the mind ſteady to its object. After tracing the ſteps that lead to the concluſion, we are ſatisfied that the propoſition is true; being conſcious that the reaſoning is built upon the ideal figure, not upon that which is drawn upon the paper. And being alſo conſcious, that the inquiry is carried on independent of any particular length of the ſides; we are ſatisfied of the univerſality of the propoſition, and of its being applicable to all triangles whatever.

Numbers conſidered by themſelves, abſtractedly from things, make the ſubject of arithmetic. And with reſpect both to mathematical and arithmetical reaſonings, which frequently conſiſt of many ſteps, the proceſs is ſhortened by the invention of ſigns, which, by a ſingle daſh of the pen, expreſs clearly what would require many words. By that means a very long chain of reaſoning is expreſſed by a few ſymbols; a method that contributes greatly to readineſs of comprehenſion. If in ſuch reaſonings words were neceſſary, the mind, embarraſſed with their multitude, would have great difficulty to follow any long chain of reaſoning. A line drawn upon paper repreſents an ideal line, and a few ſimple characters repreſent the abſtract ideas of number.

Arithmetical reaſoning, like mathematical, depends entirely upon the relation of equality, which can be aſcertained with the greateſt certainty among many ideas. Hence, reaſonings upon ſuch ideas afford the higheſt degree of conviction. I do not ſay, however, that this is always the caſe; for a

man who is conſcious of his own fallibility, is ſeldom without ſome degree of diffidence, where the reaſoning conſiſts of many ſteps. And though on a review no error be diſcovered, yet he is conſcious that there may be errors, though they have eſcaped him.

As to the other kind of demonſtrative reaſoning, founded on propoſitions of which we are intuitively certain; I juſtly call it *demonſtrative*, becauſe it affords the ſame conviction that ariſes from mathematical reaſoning. In both, the means of conviction are the ſame, viz. a clear perception of the relation between two ideas: and there are many relations of which we have ideas no leſs clear than of equality; witneſs ſubſtance and quality, the whole and its parts, cauſe and effect, and many others. From the intuitive propoſition, for example, That nothing which begins to exiſt can exiſt without a cauſe, I can conclude, that ſome one being muſt have exiſted from all eternity, with no leſs certainty, than that the three angles of a triangle are equal to two right angles.

What falls next in order, is that inferior ſort of knowledge which is termed *opinion*; and which, like knowledge properly ſo termed, is founded in ſome inſtances upon intuition, and in ſome upon reaſoning. But it differs from knowledge properly ſo termed in the following particular, that it produces different degrees of conviction, ſometimes approaching to certainty, ſometimes ſinking toward the verge of improbability. The conſtancy and uniformity of natural operations, is a fit ſubject for

illuſtrating that difference. The future ſucceſſive changes of day and night, of winter and ſummer, and of other ſucceſſions which have hitherto been conſtant and uniform, fall under intuitive knowledge, becauſe of theſe we have the higheſt conviction. As the conviction is inferior of ſucceſſions that hitherto have varied in any degree, theſe fall under intuitive opinion. We expect ſummer after winter with the utmoſt confidence; but we have not the ſame confidence in expecting a hot ſummer or a cold winter. And yet the probability approaches much nearer to certainty, than the intuitive opinion we have, that the operations of nature are extremely ſimple, a propoſition that is little relied on.

As to opinion founded on reaſoning, it is obvious, that the conviction produced by reaſoning, can never riſe above what is produced by the intuitive propoſition upon which the reaſoning is founded. And that it may be weaker, will appear from conſidering, that even where the fundamental propoſition is certain, it may lead to the concluſive opinion by intermediate propoſitions, that are probable only, not certain. In a word, it holds in general with reſpect to every ſort of reaſoning, that the concluſive propoſition can never riſe higher in point of conviction, than the very loweſt of the intuitive propoſitions employed as ſteps in the reaſoning.

The perception we have of the contingency of future events, opens a wide field to our reaſoning about probabilities. That perception involves more

or leſs doubt according to its ſubject. In ſome inſtances, the event is perceived to be extremely doubtful; in others, it is perceived to be leſs doubtful. It appears altogether doubtful, in throwing a die, which of the ſix ſides will turn up; and for that reaſon, we cannot juſtly conclude for one rather than for another. If one only of the ſix ſides be marked with a figure, we conclude, that a blank will turn up; and five to one is an equal wager that ſuch will be the effect. In judging of the future behaviour of a man who has hitherto been governed by intereſt, we may conclude with a probability approaching to certainty, that intereſt will continue to prevail.

Belief comes laſt in order, which, as defined above, is knowledge of the truth of facts that falls below certainty, and involves in its nature ſome degree of doubt. It is alſo of two kinds; one founded upon intuition, and one upon reaſoning. Thus, knowledge, opinion, belief, are all of them equally diſtinguiſhable into intuitive and diſcurſive. Of intuitive belief, I diſcover three different ſources or cauſes. Firſt, A preſent object. Second, An object formerly preſent. Third, The teſtimony of others.

To have a clear conception of the firſt cauſe, it muſt be obſerved, that among the ſimple perceptions that compoſe the complex perception of a preſent object, a perception of real and preſent exiſtence is one. This perception riſes commonly to certainty; in which caſe it is a branch of knowledge properly ſo termed; and is handled as ſuch

above. But this perception falls below certainty in ſome inſtances; as where an object, ſeen at a great diſtance or in a fog, is perceived to be a horſe, but ſo indiſtinctly as to make it a probability only. The perception in ſuch a caſe is termed *belief*. Both perceptions are fundamentally of the ſame nature; being ſimple perceptions of real exiſtence. They differ only in point of diſtinctneſs: the perception of reality that makes a branch of knowledge, is ſo clear and diſtinct as to exclude all doubt or heſitation: the perception of reality that occaſions belief, being leſs clear and diſtinct, makes not the exiſtence of the object certain to us, but only probable.

With reſpect to the ſecond cauſe; the exiſtence of an abſent object, formerly ſeen, amounts not to a certainty; and therefore is the ſubject of belief only, not of knowledge. Things are in a continual flux from production to diſſolution; and our ſenſes are accommodated to that variable ſcene: a preſent object admits no doubt of its exiſtence; but after it is removed, its exiſtence becomes leſs certain, and in time ſinks down to a ſlight degree of probability.

Human teſtimony, the third cauſe, produces belief, more or leſs ſtrong, according to circumſtances. In general, nature leads us to rely upon the veracity of each other; and commonly the degree of reliance is proportioned to the degree of veracity. Sometimes belief approaches to certainty, as when it is founded on the evidence of perſons above exception as to veracity. Sometimes it ſinks

to the loweſt degree of probability, as when a fact is told by one who has no great reputation for truth. The nature of the fact, common or uncommon, has likewiſe an influence: an ordinary incident gains credit upon very ſlight evidence; but it requires the ſtrongeſt evidence to overcome the improbability of an event that deviates from the ordinary courſe of nature. At the ſame time, it muſt be obſerved, that belief is not always founded upon rational principles. There are biaſſes and weakneſſes in human nature that ſometimes diſturb the operation, and produce belief without ſufficient or proper evidence: we are diſpoſed to believe on very ſlight evidence, an intereſting event, however rare or ſingular, that alarms and agitates the mind; becauſe the mind in agitation is remarkably ſuſceptible of impreſſions; for which reaſon ſtories of ghoſts and apparitions paſs current with the vulgar. Eloquence alſo has great power over the mind; and, by making deep impreſſions, enforces the belief of facts upon evidence that would not be regarded in a cool moment.

The dependence that our perception of real exiſtence, and conſequently belief, hath upon oral evidence, enlivens ſocial intercourſe, and promotes ſociety. But the perception of real exiſtence has a ſtill more extenſive influence; for from that perception is derived a great part of the entertainment we find in hiſtory, and in hiſtorical fables [1]. At the ſame time, a perception that may be raiſed by

[1] Elements of Criticiſm, ch. 2. part 1. § 7.

fiction as well as by truth, would often mislead were we abandoned to its impulse: but the God of nature hath provided a remedy for that evil, by erecting within the mind a tribunal, to which there lies an appeal from the rash impressions of sense. When the delusion of eloquence or of dread subsides, the perplexed mind is uncertain what to believe. A regular process commences, counsel is heard, evidence produced, and a final judgment pronounced, sometimes confirming, sometimes varying, the belief impressed upon us by the lively perception of reality. Thus, by a wise appointment of nature, intuitive belief is subjected to rational discussion: when confirmed by reason, it turns more vigorous and authoritative: when contradicted by reason, it disappears among sensible people. In some instances, it is too headstrong for reason; as in the case of hobgoblins and apparitions, which pass current among the vulgar in spite of reason.

We proceed to the other kind of belief, that which is founded on reasoning; to which, when intuition fails us, we must have recourse for ascertaining certain facts. Thus, from known effects, we infer the existence of unknown causes. That an effect must have a cause, is an intuitive proposition; but to ascertain what particular thing is the cause, requires commonly a process of reasoning. This is one of the means by which the Deity, the primary cause, is made known to us, as mentioned above. Reason, in tracing causes from known effects, produces different degrees of con-

viction. It ſometimes produces certainty, as in proving the exiſtence of the Deity; which on that account is handled above, under the head of knowledge. For the moſt part it produces belief only, which, according to the ſtrength of the reaſoning, ſometimes approaches to certainty, ſometimes is ſo weak as barely to turn the ſcale on the ſide of probability. Take the following examples of different degrees of belief founded on probable reaſoning. When Inigo Jones flouriſhed, and was the only architect of note in England; let it be ſuppoſed, that his model of the palace of Whitehall had been preſented to a ſtranger, without mentioning the author. The ſtranger, in the firſt place, would be intuitively certain, that this was the work of ſome Being, intelligent and ſkilful. Secondly, He would have a conviction approaching to certainty, that the operator was a man. And thirdly, He would have a conviction that the man was Inigo Jones; but leſs firm than the former. Let us next ſuppoſe another Engliſh architect little inferior in reputation to Jones: the ſtranger would ſtill pronounce in favor of the latter; but his belief would be in the loweſt degree.

When we inveſtigate the cauſes of certain effects, the reaſoning is often founded upon the known nature of man. In the high country, for example, between Edinburgh and Glaſgow, the people lay their coals at the end of their houſes, without any fence to ſecure them from theft: whence it is rationally inferred, that coals are there in plenty. In the weſt of Scotland, the corn-ſtacks are covered

with great care and nicety: whence it is inferred that the climate is rainy. Placentia is the capital town of Biſcay: the only town in Newfoundland bears the ſame name; from which circumſtance it is conjectured, that the Biſcayners were the firſt Europeans who made a ſettlement in that iſland.

Analogical reaſoning, founded upon the uniformity of nature, is frequently employed in the inveſtigation of facts; and we infer, that facts of which we are uncertain, muſt reſemble thoſe of the ſame kind that are known. The reaſonings in natural philoſophy are moſtly of that kind. Take the following examples. We learn from experience, that proceeding from the humbleſt vegetable to man, there are numberleſs claſſes of beings riſing one above another by differences ſcarce perceptible, and leaving no where a ſingle gap or interval: and from conviction of the uniformity of nature we infer, that the line is not broken off here, but is carried on in other worlds, till it end in the Deity. I proceed to another example. Every man is conſcious of a ſelf-motive power in himſelf; and from the uniformity of nature, we infer the ſame power in every one of our own ſpecies. The argument here from analogy carries great weight, becauſe we entertain no doubt of the uniformity of nature with reſpect to beings of our own kind. We apply the ſame argument to other animals; though their reſemblance to man appears not ſo certain, as that of one man to another. But why not alſo apply the ſame argument to infer a ſelf-motive power in matter? When we ſee matter in motion

without an external mover, we naturally infer, that, like us, it moves itſelf. Another example is borrowed from Maupertuis. "As there is no known ſpace of the earth covered with water ſo large as the *Terra Auſtralis incognita*, we may reaſonably infer, that ſo great a part of the earth is not altogether ſea, but that there muſt be ſome proportion of land." The uniformity of nature with reſpect to the intermixture of ſea and land, is an argument that affords but a very ſlender degree of conviction; and from late voyages it is diſcovered, that the argument holds not in fact. The following argument of the ſame kind, though it cannot be much relied on, ſeems however better founded. "The inhabitants of the northern hemiſphere, have, in arts and ſciences, excelled ſuch of the ſouthern as we have any knowledge of: and therefore among the latter we ought not to expect many arts, nor much cultivation."

After a fatiguing inveſtigation of numberleſs particulars which divide and ſcatter the thought, it may not be unpleaſant to bring all under one view by a ſuccinct recapitulation.

We have two means for diſcovering truth and acquiring knowledge, viz. intuition and reaſoning. By intuition we diſcover ſubjects and their attributes, paſſions, internal action, and in ſhort every thing that is matter of fact. By intuition we alſo diſcover ſeveral relations. There are ſome facts and many relations, that cannot be diſcovered by a ſingle act of intuition, but require ſeveral ſuch acts linked together in a chain of reaſoning.

Knowledge acquired by intuition, includes for the moſt part certainty: in ſome inſtances it includes probability only. Knowledge acquired by reaſoning, frequently includes certainty; but more frequently includes probability only.

Probable knowledge, whether founded on intuition or on reaſoning, is termed *opinion* when it concerns relations; and is termed *belief* when it concerns facts. Where knowledge includes certainty, it retains its proper name.

Reaſoning that produces certainty, is termed *demonſtrative*: and is termed *probable*, when it only produces probability.

Demonſtrative reaſoning is of two kinds. The firſt is, where the concluſion is derived from the nature and inherent properties of the ſubject: mathematical reaſoning is of that kind; and perhaps the only inſtance. The ſecond is, where the concluſion is derived from ſome propoſition, of which we are certain by intuition.

Probable reaſoning is endleſs in its varieties; and affords different degrees of conviction, depending on the nature of the ſubject upon which it is employed.

## SECT. II.

### *Progreſs of Reaſon.*

A Progreſs from infancy to maturity in the mind of man, ſimilar to that in his body, has been often mentioned.

mentioned. The external ſenſes, being early neceſſary for ſelf-preſervation, arrive quickly at maturity. The internal ſenſes are of a ſlower growth, as well as every other mental power: their maturity would be of little or no uſe while the body is weak, and unfit for action. Reaſoning, as obſerved in the firſt ſection, requires two mental powers, the power of invention, and that of perceiving relations. By the former are diſcovered intermediate propoſitions, having the ſame relation to the fundamental propoſition and to the concluſion; and that relation is verified by the latter. Both powers are neceſſary to the perſon who frames an argument, or a chain of reaſoning: the latter only, to the perſon who judges of it. Savages are miſerably deficient in both. With reſpect to the former, a ſavage may have from his nature a talent for invention; but it will ſtand him in little ſtead without a ſtock of ideas enabling him to ſelect what may anſwer his purpoſe; and a ſavage has no opportunity to acquire ſuch a ſtock. With reſpect to the latter, he knows little of relations. And how ſhould he know, when both ſtudy and practice are neceſſary for diſtinguiſhing between relations? The underſtanding, at the ſame time, is among the illiterate obſequious to paſſion and prepoſſeſſion; and among them the imagination acts without control, forming concluſions often no better than mere dreams. In ſhort, conſidering the many cauſes that miſlead from juſt reaſoning, in days eſpecially of ignorance, the erroneous and abſurd opinions that have prevailed in the world, and

that continue in ſome meaſure to prevail, are far from being ſurpriſing. Were reaſon our only guide in the conduct of life, we ſhould have cauſe to complain; but our Maker has provided us with the moral ſenſe, a guide little ſubject to error in matters of importance. In the ſciences, reaſon is eſſential; but in the conduct of life, which is our chief concern, reaſon may be an uſeful aſſiſtant; but to be our director is not its province.

The national progreſs of reaſon has been ſlower in Europe, than that of any other art: ſtatuary, painting, architecture, and other fine arts, approach nearer perfection, as well as morality and natural hiſtory. Manners and every art that appears externally, may in part be acquired by imitation and example; in reaſoning there is nothing external to be laid hold of. But there is beſide a particular cauſe that regards Europe, which is the blind deference that for many ages was paid to Ariſtotle; who has kept the reaſoning faculty in chains more than two thouſand years. In his logic, the plain and ſimple mode of reaſoning is rejected, that which Nature dictates; and in its ſtead is introduced an artificial mode, ſhowy but unſubſtantial, of no uſe for diſcovering truth; but contrived with great art for wrangling and diſputation. Conſidering that reaſon for ſo many ages has been immured in the enchanted caſtle of ſyllogiſm, where phantoms paſs for realities; the ſlow progreſs of reaſon toward maturity is far from being ſurpriſing. The taking of Conſtantinople by the Turks *anno* 1453, unfolded a new ſcene, which in time relieved the

world from the uſurpation of Ariſtotle, and reſtored reaſon to her privileges. All the knowledge of Europe was centered in Conſtantinople; and the learned men of that city, abhorring the Turks and their government, took refuge in Italy. The Greek language was introduced among the weſtern nations of Europe; and the ſtudy of Greek and Roman claſſics became faſhionable. Men, having acquired new ideas, began to think for themſelves: they exerted their native faculty of reaſon: the futility of Ariſtotle's logic became apparent to the penetrating; and is now apparent to all. Yet ſo late as the year 1621, ſeveral perſons were baniſhed from Paris for contradicting that philoſopher, about matter and form, and about the number of the elements. And ſhortly after, the parliament of Paris prohibited, under pain of death, any thing to be taught contrary to the doctrines of Ariſtotle. Julius II. and Leo X. Roman Pontiffs, contributed zealouſly to the reformation of letters; but they did not foreſee that they were alſo contributing to the reformation of religion, and of every ſcience that depends on reaſoning. Though the fetters of ſyllogiſm have many years ago been ſhaken off; yet, like a limb long kept from motion, the reaſoning faculty has ſcarcely to this day attained its free and natural exerciſe. Mathematics is the only ſcience that never has been cramped by ſyllogiſm, and we find reaſoning there in great perfection at an early period. The very ſlow progreſs of reaſoning in other matters, will appear from the following induction.

To exemplify erroneous and abſurd reaſonings of every ſort, would be endleſs. The reader, I preſume, will be ſatisfied with a few inſtances; and I ſhall endeavour to ſelect what are amuſing. For the ſake of order, I divide them into three heads. Firſt, Inſtances ſhowing the imbecillity of human reaſon during its nonage. Second, Erroneous reaſoning occaſioned by natural biaſſes. Third, Erroneous reaſoning occaſioned by acquired biaſſes. With reſpect to the firſt, inſtances are endleſs of reaſonings founded on erroneous premiſes. It was an Epicurean doctrine, That the gods have all of them a human figure; moved by the following argument, that no being of any other figure has the uſe of reaſon. Plato, taking for granted the following erroneous propoſition, That every being which moves itſelf muſt have a ſoul, concludes that the world muſt have a ſoul, becauſe it moves itſelf[1]. Ariſtotle taking it for granted, without the leaſt evidence and contrary to truth, that all heavy bodies tend to the centre of the univerſe, proves the earth to be the centre of the univerſe by the following argument. "Heavy "bodies naturally tend to the centre of the uni"verſe: we know by experience that heavy bo"dies tend to the centre of the earth: therefore "the centre of the earth is the centre of the uni"verſe." Appian ridicules the Jews for adhering literally to the precept of reſting on their ſabbath, ſo as to ſuffer Jeruſalem to be taken that day by Ptolomy ſon of Lagus. Mark the anſwer of Jo-

[1] Cicero, De Natura Deorum, lib. 2. § 12.

ſephus: "Whoever paſſes a ſober judgment on "this matter, will find our practice agreeable to "honor and virtue; for what can be more honor-"able and virtuous, than to poſtpone our coun-"try, and even life itſelf, to the ſervice of God, "and of his holy religion?" A ſtrange idea of religion, to put it in direct oppoſition to every moral principle! A ſuperſtitious and abſurd doctrine, That God will interpoſe by a miracle to declare what is right in every controverſy, has occaſioned much erroneous reaſoning and abſurd practice. The practice of determining controverſies by ſingle combat, commenced about the ſeventh century, when religion had degenerated into ſuperſtition, and courage was eſteemed the only moral virtue. The parliament of Paris, in the reign of Charles VI. appointed a ſingle combat between two gentlemen, in order to have the judgement of God whether the one had committed a rape on the other's wife. In the 1454, John Picard being accuſed by his ſon-in-law for too great familiarity with his wife, a duel between them was appointed by the ſame parliament. Voltaire juſtly obſerves, that the parliament decreed a parricide to be committed, in order to try an accuſation of inceſt, which poſſibly was not committed. The trials by water and by fire, reſt on the ſame erroneous foundation. In the former, if the perſon accuſed ſunk to the bottom, it was a judgement pronounced by God, that he was innocent: if he kept above, it was a judgment that he was

guilty. Fleury[1] remarks, that if ever the perſon accuſed was found guilty, it was his own fault. In Sicily, a woman accuſed of adultery, was compelled to ſwear to her innocence: the oath, taken down in writing, was laid on water; and if it did not ſink, the woman was innocent. We find the ſame practice in Japan, and in Malabar. One of the articles inſiſted on by the reformers in Scotland, was, That public prayers be made and the ſacraments adminiſtered in the vulgar tongue. The anſwer of a provincial council was in the following words: "That to conceive public prayers or "adminiſter the ſacraments in any language but "Latin, is contrary to the traditions and practice "of the Catholic church for many ages paſt; and "that the demand cannot be granted, without "impiety to God and diſobedience to the church." Here it is taken for granted, that the practice of the church is always right; which is building an argument on a very rotten foundation. The Caribees abſtain from ſwines fleſh; taking it erroneouſly for granted, that ſuch food would make them have ſmall eyes, held by them a great deformity. They alſo abſtain from eating turtle; which they think would infect them with the lazineſs and ſtupidity of that animal. Upon the ſame erroneous notion, the Braſilians abſtain from the fleſh of ducks, and of every creature that moves ſlowly. It is obſerved of northern nations, that they do

[1] Hiſtoire Eccleſiaſtique.

not open the mouth ſufficiently for diſtinct articulation; and the reaſon given is, that the coldneſs of the air makes them keep the mouth as cloſe as poſſible. This reaſon is indolently copied by writers one from another: people enured to a cold climate feel little cold in the mouth; beſide that a cauſe ſo weak could never operate equally among ſo many different nations. The real cauſe is, that northern tongues abound with conſonants, which admit but a ſmall aperture of the mouth. (See Elements of Criticiſm, chap. Beauty of language). A liſt of German names to be found in every catalogue of books, will make this evident *Rutgerſius*, for example, *Fæſch*. To account for a fact that is certain, any reaſon commonly ſuffices.

A talent for writing ſeems in Germany to be eſtimated by weight, as beauty is ſaid to be in Holland. Cocceius for writing three weighty folio volumes on law, has obtained among his countrymen the epithet of *Great*. This author, handling the rules of ſucceſſion in land-eſtates, has with moſt profound erudition founded all of them upon the following very ſimple propoſition: In a competition, that deſcendent is entitled to be preferred who has the greateſt quantity of the predeceſſor's blood in his veins. *Quæritur*, has a man any of his predeceſſor's blood in his veins, otherwiſe than metaphorically? Simple indeed! to build an argument in law upon a pure metaphor.

Next of reaſonings where the concluſion follows not from the premiſes, or fundamental propoſition.

Plato endavours to prove, that the world is endowed with wiſdom, by the following argument. "The world is greater than any of its parts: therefore it is endowed with wiſdom; for otherwiſe a man who is endowed with wiſdom would be greater than the world [1]." The concluſion here does not follow; for though man is endowed with wiſdom, it follows not, that he is greater than the world in point of ſize. Zeno endeavours to prove, that the world has the uſe of reaſon, by an argument of the ſame kind. To convince the world of the truth of the four goſpels, Ireneus [2] urges the following arguments, which he calls demonſtration. "There are four quarters of the world and four cardinal winds, conſequently there are four goſpels in the church, as there are four pillars that ſupport it, and four breaths of life that render it immortal." Again, "The four animals in Ezekiel's viſion mark the four ſtates of the Son of God. The lion is his royal dignity: the calf, his prieſthood: the beaſt with the face of man, his human nature: the eagle, his ſpirit which deſcends on the church. To theſe four animals correſpond the four goſpels, on which our Lord is ſeated. John, who teaches his celeſtial origin, is the lion, his goſpel being full of confidence: Luke, who begins with the prieſthood of Zachariah, is the calf: Matthew, who deſcribes the genealogy of Chriſt

[1] Cicero, De Natura Deorum, lib. 2. § 12.
[2] Lib. 3. cap. 11.

" according to the fleſh, is the animal reſembling " a man: Mark, who begins with the prophetic " ſpirit coming from above, is the eagle. This " goſpel is the ſhorteſt of all, becauſe brevity is " the character of prophecy." Take a third demonſtration of the truth of the four goſpels. "There " have been four covenants; the firſt under Adam, " the ſecond under Noah, the third under Moſes, " the fourth under Jeſus Chriſt." Whence Ireneus concludes, that they are vain, raſh and ignorant, who admit more or leſs than four goſpels. St Cyprian in his exhortation to martyrdom, after having applied the myſterious number ſeven, to the ſeven days of the creation, to the ſeven thouſand years of the world's duration, to the ſeven ſpirits that ſtand before God, to the ſeven lamps of the tabernacle, to the ſeven candleſticks of the Apocalypſe, to the ſeven pillars of wiſdom, to the ſeven children of the barren woman, to the ſeven women who took one man for their huſband, to the ſeven brothers of the Maccabees; obſerves, that St Paul mentions that number as a privileged number; which, ſays he, is the reaſon why he did not write but to ſeven churches. Pope Gregory, writing in favor of the four councils, viz. Nice, Conſtantinople, Epheſus, and Calcedon, reaſons thus: "That as " there are four evangeliſts, there ought alſo to " be four councils." What would he have ſaid, if he had lived 100 years later, when there were many more than four? In adminiſtering the ſacrament of the Lord's ſupper, it was ordered, that

the hoſt ſhould be covered with a clean linen cloth; becauſe, ſays the Canon law, the body of our Lord Jeſus Chriſt was buried in a clean linen cloth. Joſephus, in his anſwer to Appian, urges the following argument for the temple of Jeruſalem: "As "there is but one God, and one world, it holds "in analogy, that there ſhould be but one tem- "ple." At that rate, there ſhould be but one worſhipper. And why ſhould that one temple be at Jeruſalem rather than at Rome, or at Pekin? The Syrians and Greeks did not for a long time eat fiſh. Two reaſons are aſſigned: one is, that fiſh is not ſacrificed to the gods; the other, that being immerſed in the ſea, they look not up to heaven [1]. The firſt would afford a more plauſible argument for eating fiſh. And if the other have any weight, it would be an argument for ſacrificing men, and neither fiſh nor cattle. In juſtification of the Salic law, which prohibits female ſucceſſion, it was long held a concluſive argument, That in the ſcripture the lilies are ſaid neither to work nor to ſpin. Vieyra, termed by his countrymen *the Luſitanian Cicero*, publiſhed ſermons, one of which begins thus, "Were the Supreme "Being to ſhow himſelf viſibly, he would chuſe "the circle rather than the triangle, the ſquare, "the pentagon, the duodecagon, or any other "figure." But why appear in any of theſe figures? And if he were obliged to appear in ſo mean a ſhape, a globe is undoubtedly more beautiful than

[1] Sir John Marſham, p. 221.

a circle. Peter Hantz of Horn, who lived in the laſt century, imagined that Noah's ark is the true conſtruction of a ſhip; "which," ſaid he, "is the "workmanſhip of God, and therefore perfect;" as if a veſſel made merely for floating on the water, were the beſt alſo for ſailing. Sixty or ſeventy years ago, the faſhion prevailed, in imitation of birds, to ſwallow ſmall ſtones for the ſake of digeſtion; as if what is proper for birds, were equally proper for men. The Spaniards, who laid waſte a great part of the Weſt Indies, endeavoured to excuſe their cruelties, by maintaining, that the natives were not men, but a ſpecies of the Ouran Outang; for no better reaſon, than that they were of a copper color, ſpoke an unknown language, and had no beard. The Pope iſſued a bull, declaring, that it pleaſed him and the Holy Ghoſt to acknowledge the Americans to be of the human race. This bull was not received cordially; for in the council of Lima, *anno* 1583, it was violently diſputed, whether the Americans had ſo much underſtanding as to be admitted to the ſacraments of the church. In the 1440, the Portugueſe ſolicited the Pope's permiſſion to double the Cape of Good Hope, and to reduce to perpetual ſervitude the negroes, becauſe they had the color of the damned, and never went to church. In the Frederician Code, a propoſition is laid down, That by the law of nature no man can make a teſtament. And in ſupport of that propoſition the following argument is urged, which is ſaid to be a demonſtration: "No deed can be a teſtament

" while a man is alive, becauſe it is not neceſſa-
" rily his *ultima voluntas*; and no man can make
" a teſtament after his death." Both premiſes are true, but the negative concluſion does not follow: it is true a man's deed is not his *ultima voluntas*, while he is alive: but does it not become his *ultima voluntas*, when he dies without altering the deed?

Many reaſonings have paſſed current in the world as good coin, where the premiſes are not true; nor, ſuppoſing them true, would they infer the concluſion. Plato in his Phœdon relies on the following argument for the immortality of the ſoul. " Is not death the oppoſite of life? Certain-
" ly. And do they not give birth to each other?
" Certainly. What then is produced from life?
" Death. And what from death? Life. It is then
" from the dead that all things living proceed;
" and conſequently ſouls exiſt after death." God, ſays Plato, made but five worlds, becauſe according to his definition there are but five regular bodies in geometry. Is that a reaſon for confining the Almighty to five worlds, not one leſs or more. Ariſtotle, who wrote a book upon mechanics, was much puzzled about the equilibrium of a balance, when unequal weights are hung upon it at different diſtances from the centre. Having obſerved, that the arms of the balance deſcribe portions of a circle, he accounted for the equilibrium by a notable argument: " All the properties of
" the circle are wonderful: the equilibrium of the
" two weights that deſcribe portions of a circle

" is wonderful. *Ergo*, the equilibrium muſt be " one of the properties of the circle." What are we to think of Ariſtotle's Logic, when we find him capable of ſuch childiſh reaſoning? And yet that work has been the admiration of all the world for centuries upon centuries. Nay, that fooliſh argument has been eſpouſed and commented upon by his diſciples, for the ſame length of time. To proceed to another inſtance: Marriage within the fourth degree of conſanguinity, as well as of affinity, is prohibited by the Lateran council, and the reaſon given is, That the body being made up of the four elements, has four different humors in it[*]. The Roman Catholics began with beheading heretics, hanging them, or ſtoning them to death. But ſuch puniſhments were diſcovered to be too ſlight, in matters of faith. It was demonſtrated, that heretics ought to be burnt in a ſlow fire; it being taken for granted, that God puniſhes them in the other world with a ſlow fire; it was inferred, "That as every prince and every magiſtrate is " the image of God in this world, they ought to " follow his example." Here is a double error in

[*] The original is curious: "Quaternarius enim numerus bene congruit prohibitioni conjugii corporalis; de " quo dicit Apoſtolus, Quod vir non habet poteſtatem ſui " corporis, ſed mulier; neque mulier habet poteſtatem ſui " corporis, ſed vir; quia quatuor ſunt humores in corpore, " quod conſtat ex quatuor elementis." Were men who could be guilty of ſuch nonſenſe, qualified to be our leaders in the moſt important of all concerns, that of eternal ſalvation?

reaſoning: firſt, the taking for granted the fundamental propoſition, which is ſurely not ſelf-evident; and next, the drawing a concluſion from it without any connexion. The heat of the ſun, by the reflection of its rays from the earth, is greatly increaſed in paſſing over the great country of Africa. Hence rich mines of gold, and the black complection of the inhabitants. In paſſing over the Atlantic it is cooled: and by the time it reaches the continent of America, it has loſt much of its vigor. Hence no gold on the eaſt ſide of America. But being heated again in paſſing over a great ſpace of land, it produces much gold in Peru. Is not this reaſoning curious? What follows is no leſs ſo. Huetius Biſhop of Avranches, declaiming againſt the vanity of eſtabliſhing a perpetual ſucceſſion of deſcendents, obſerves, that other writers had expoſed it upon moral principles, but that he would cut it down with a plain metaphyſical argument. "Father and ſon are relative ideas; and "the relation is at an end by the death of either. "My will, therefore, to leave my eſtate to my ſon, "is abſurd; becauſe after my death, he is no lon-"ger my ſon." By the ſame ſort of argument he demonſtrates the vanity of fame. "The relation "that ſubſiſts between a man and his character, "is at an end by his death: and therefore, that "the character given him by the world, belongs "not to him nor to any perſon." Huetius is not the only writer who has urged metaphyſical arguments contrary to common ſenſe.

It once was a general opinion among thoſe who

dwelt near the ſea, that people never die but dur-ng the ebb of the tide. And there were not want-ng plauſible reaſons. The ſea, in flowing, carries with it vivifying particles that recruit the ſick. The ſea is ſalt, and ſalt preſerves from rottenneſs. When the ſea ſinks in ebbing, every thing ſinks with it: nature languiſhes: the ſick are not vivified: they die.

What ſhall be ſaid of a reaſoning where the concluſion is a flat contradiction to the premiſes? If a man ſhooting at a wild pigeon happen unfor-tunately to kill his neighbour, it is in the Engliſh law excuſable homicide; becauſe the ſhooting an ani-mal that is no man's property, is a lawful act. If the aim be at a tame fowl for amuſement, which is a treſpaſs on the property of another, the death of the man is manſlaughter. If the tame fowl be ſhot in order to be ſtolen, it is murder, by reaſon of the felonious intent. From this laſt the follow-ing conſequence is drawn, that if a man, endea-vouring to kill another, miſſes his blow and hap-peneth to kill himſelf, he is in judgment of law guilty *of wilful and deliberate ſelf-murder*[1]. Strange reaſoning! to conſtrue an act to be wilful and de-liberate ſelf-murder, contrary to the very thing that is ſuppoſed.

A plentiful ſource of inconcluſive reaſoning, which prevails greatly during the infancy of the rational faculty, is the making of no proper diſ-

[1] Hale, Pleas of the Crown, cap. 1. 413.

tinction between ſtrong and weak relations. Minutius Felix, in his apology for the Chriſtians, endeavours to prove the unity of the Deity from a moſt diſtant analogy or relation, "That there "is but one king of the bees, and that more than "one chief magiſtrate would breed confuſion." It is a proſtitution of reaſon to offer ſuch an argument for the unity of the Deity. But any argument paſſes current, in ſupport of a propoſition that we know beforehand to be true. Plutarch ſays, "that "it ſeemed to have happened by the peculiar di-"rection of the gods, that Numa was born on "the 21ſt of April, the very day in which Rome "was founded by Romulus;" a very childiſh inference from a mere accident. Suppoſing Italy to have been tolerably populous, as undoubtedly it was at that period, the 21ſt of April, or any day of April, might have given birth to thouſands. In many countries, the ſurgeons and barbers are claſſed together, as members of the ſame trade, from a very ſlight relation, that both of them operate upon the human body. The Jews enjoyed the reputation, for centuries, of being ſkilful phyſicians. Francis I. of France, having long labored under a diſeaſe that eluded the art of his own phyſicians, applied to the Emperor Charles V. for a Jewiſh phyſician from Spain. Finding that the perſon ſent had been converted to Chriſtianity, the King refuſed to employ him; as if a Jew were to loſe his ſkill upon being converted to Chriſtianity. Why did not the King order one of his own

phyſicians

physicians to be converted to Judaism? The following childish argument is built upon an extreme slight relation, that between our Saviour and the wooden cross he suffered on. "Believe me," says Julius Firmicus, "that the devil omits nothing "to destroy miserable mortals; converting himself "into every different form, and employing every "sort of artifice. He appoints wood to be used in "sacrificing to him, knowing that our Saviour, fixed "to the cross, would bestow immortality upon all "his followers. A pine-tree is cut down, and used in "sacrificing to the mother of the gods. A wooden "image of Osiris is buried in sacrificing to Isis. "A wooden image of Proserpina is bemoaned for "forty nights, and then thrown into the flames. "Deluded mortals, these flames can do you no "service. On the contrary, the fire that is des-"tined for your punishment rages without end. "Learn from me to know that divine wood which "will set you free. A wooden ark saved the hu-"man race from the universal deluge. Abraham "put wood upon the shoulders of his son Isaac. "The wooden rod stretched out by Aaron brought "the children of Israel out of the land of Egypt. "Wood sweetened the bitter waters of Marah, "and comforted the children of Israel after wan-"dering three days without water. A wooden "rod struck water out of the rock. The rod of "God in the hand of Moses overcame Amalek. "The patriarch dreamed, that he saw angels des-"cending and ascending upon a wooden ladder; "and the law of God was inclosed in a wooden

"ark. These things were exhibited, that, as if "it were by certain steps, we might ascend to "the wood of the cross, which is our salvation. "The wood of the cross sustains the heavenly "machine, supports the foundations of the earth, "and leads men to eternal life. The wood of "the devil burns and perishes, and its ashes car-"ries down sinners to the lowest pit of hell." The very slightest relations make an impression on a weak understanding. It was a fancy of Antoninus Geta, in ordering his table, to have services composed of dishes beginning with the same letter; such as lamb and lobster; broth, beef, blood-pudding; plum-cake, pigeons, potatoes. The name of John king of Scotland was changed into *Robert*, for no better reason than that the Johns of France and of England had been unfortunate.

In reasoning, instances are not rare, of mistaking the cause for the effect, and the effect for the cause. When a stone is thrown from the hand, the continuance of its motion in the air, was once universally accounted for as follows: "That the "air follows the stone at the heels, and pushes it "on." The effect here is mistaken for the cause: the air indeed follows the stone at the heels; but it only fills the vacuity made by the stone, and does not push it on. It has been silly urged against the art of physic, that physicians are rare among temperate people, such as have no wants but those of nature; and that where physicians abound, diseases abound. This is mistaking the cause for the effect, and the effect for the cause: people in health

have no occaſion for a phyſician; but indolence and luxury beget diſeaſes, and diſeaſes beget phyſicians.

During the nonage of reaſon, men are ſatisfied with words merely, inſtead of an argument. A ſea-proſpect is charming; but we ſoon tire of an unbounded proſpect. It would not give ſatisfaction to ſay, that it is too extenſive; for why ſhould not a proſpect be reliſhed, however extenſive? But employ a foreign term and ſay, that it is *trop vaſte*, we inquire no farther: a term that is not familiar, makes an impreſſion, and captivates weak reaſon. This obſervation accounts for a mode of writing formerly in common uſe, that of ſtuffing out language with Latin words and phraſes. Theſe are now laid aſide as uſeleſs; becauſe a proper emphaſis in reading, makes an impreſſion deeper than any foreign term can do.

There is one proof of the imbecility of human reaſon in dark times, which would ſcarce be believed, were not the fact ſupported by inconteſtible evidence. Inſtead of explaining any natural appearance by ſearching for a cauſe, it has been common to account for it by inventing a fable, which gave ſatisfaction without inquiring farther. For example, inſtead of giving the true cauſe of the ſucceſſion of day and night, the ſacred book of the Scandinavians, termed *Edda*, accounts for that ſucceſſion by a tale: "The giant Nor had a "daughter named *Night*, of a dark complexion. "She was wedded to Daglingar, of the family "of the gods. They had a male child, which "they named *Day*, beautiful and ſhining like all

"of his father's family. The univerſal father took "Night and Day, placed them in heaven, and "gave to each a horſe and a car, that they might "travel round the world, the one after the other. "Night goes firſt upon her horſe named *Rimfaxe*, "[froſty Mane], who moiſtens the earth with the "foam that drops from his bit, which is the dew. The "horſe belonging to Day is named *Skinfaxe*, [Shin-"ing Mane], who by his radiant mane illumina-"tes the air and the earth." It is obſerved by the tranſlator of the Edda, that this way of accounting for things is well ſuited to the turn of the human mind, endowed with curioſity that is keen; but eaſily ſatisfied, often with words inſtead of ideas. Zoroaſter, by a ſimilar fable, accounts for the growth of evil in this world. He invents a good and an evil principle named *Oromazes* and *Arimanes*, who are in continual conflict for preference. At the laſt day, Oromazes will be reunited to the ſupreme God, from whom he iſſued. Arimanes will be ſubdued, darkneſs deſtroyed; and the world, purified by an univerſal conflagration, will become a luminous and ſhining abode, from which evil will be excluded. I return to the Edda, which is ſtored with fables of this kind. The higheſt notion ſavages can form of the gods, is that of men endowed with extraordinaay power and knowledge. The only puzzling circumſtance is, how they differ ſo much from other men as to be immortal. The Edda accounts for it by the following fable. "The gods prevented the effect of "old age and decay, by eating certain apples,

" truſted to the care of *Iduna*. *Loke*, the Momus
" of the Scandinavians, craftily conveyed away
" *Iduna*, and concealed her in a wood, under the
" cuſtody of a giant. The gods, beginning to
" wax old and gray, detected the author of the
" theft; and, by terrible menaces, compelled him
" to employ his utmoſt cunning, for regaining
" Iduna and her apples, in which he was ſucceſs-
" ful." The origin of poetry is thus accounted
" for in the ſame work: " The gods formed
" *Quaſer*, who traverſed the earth, teaching wiſ-
" dom to men. He was treacherouſly ſlain by
" two dwarfs, who mixed honey with his blood,
" and compoſed a liquor that renders all who drink
" of it poets. Theſe dwarfs having incurred the
" reſentment of a certain giant, were expoſed by
" him upon a rock, ſurrounded on all ſides with the
" ſea. They gave for their ranſom the ſaid liquor,
" which the giant delivered to his daughter *Gun-*
" *loda*. The precious potion was eagerly ſought
" for by the gods; but how were they to come
" at it? *Odin*, in the ſhape of a worm, crept
" through a creviee into the cavern where the
" liquor was concealed. Then reſuming his natu-
" ral ſhape, and obtaining Gunloda's conſent to
" take three draughts, he ſucked up the whole;
" and, transforming himſelf into an eagle, flew
" away to *Aſgard*. The giant, who was a magi-
" cian, flew with all ſpeed after Odin, and came
" up with him near the gate of *Aſgard*. The gods
" iſſued out of their palaces to aſſiſt their maſter;
" and preſented to him all the pitchers they could

"lay hands on, which he instantly filled wi
"the precious liquor. But in the hurry of discha
"ging his load, Odin poured only part of th
"liquor through his beak, the rest being emitte
"through a less pure vent. The former is be
"stowed by the gods upon good poets, to inspi
"them with divine enthusiasm. The latter, whic
"is in much greater plenty, is bestowed liberall
"on all who apply for it; by which means th
"world is pestered with an endless quantity o
"wretched verses."[1] Ignorance is equally credu
lous in all ages. Albert, surnamed *the Grea*
flourished in the thirteenth century, and was a ma
of real knowledge. During the course of his edu
cation he was remarkably dull; and some yea
before he died became a sort of changeling. Thi
singularity produced the following story. Th
holy Virgin, appearing to him, demanded, whe
ther he would excel in philosophy or in theology
upon his choosing the former, she promised, tha
he should become an incomparable philosopher
but added, that to punish him for not preferrin
theology, he should become stupid again as a
first.

Upon a slight view, it may appear unaccountable
that even the grossest savages should take a childis
tale for a solid reason. But nature aids the decep
tion: where things are related in a lively manner
and every circumstance appears as passing in ou
sight, we take all for granted as true[1]. Can an

[1] Elements of Criticism, vol. i. p. 100.

ignorant ruſtic doubt of inſpiration, when he ſees as it were the poet ſipping the pure celeſtial liquor? And how can that poet fail to produce bad verſes, who feeds on the excrements that drop from the fundament even of a deity?

In accounting for natural appearances, even good writers have betrayed a weakneſs in reaſoning, little inferior to that above mentioned. They do not indeed put off their diſciples with a tale; but they put them off with a mere ſuppoſition, not more real than the tale. Deſcartes aſcribes the motion of the planets to a vortex of ether whirling round and round. He thought not of inquiring whether there really be ſuch a vortex, not what makes it move. M. Buffon forms the earth out of a ſplinter of the ſun, ſtruck off by a comet. May not one be permitted humbly to inquire at that eminent philoſopher, what formed the comet? This paſſes for ſolid reaſoning; and yet we laugh at the poor Indian, who ſupports the earth from falling by an elephant, and the elephant by a tortoiſe.

It is ſtill more ridiculous to reaſon upon what is acknowledged to be a fiction, as if it were real. Such are the fictions admitted in the Roman law. A Roman taken captive in war, loſt his privilege of being a Roman citizen; for freedom was held eſſential to that privilege. But what if he made his eſcape after perhaps an hour's detention? The hardſhip in that caſe ought to have ſuggeſted an alteration of the law, ſo far as to ſuſpend the privilege no longer than the captivity ſubſiſted. But the ancient Romans were not ſo ingenious. They reme-

died the hardſhip by a fiction, that the man never had been a captive. The Frederician code baniſhes from the law of Pruſſia an endleſs number of fictions found in the Roman law [a]. Yet afterward, treating of perſonal rights, it is laid down as a rule, That a child in the womb is feigned or ſuppoſed to be born when the fiction is for its advantage [b]. To a weak reaſoner, a fiction is a happy contrivance for reſolving intricate queſtions. Such is the conſtitution of England, that the Engliſh law-courts are merely territorial; and that no fact happening abroad comes under their cognizance. An Engliſhman, after murdering his fellow-traveller in France, returns to his native country. What is to be done, for guilt ought not to paſs unpuniſhed? The crime is feigned to have been committed in England.

Ancient hiſtories are full of incredible facts that paſſed current during the infancy of reaſon, which at preſent would be rejected with contempt. Every one who is converſant in the hiſtory of ancient nations can recal inſtances without end. Does any perſon believe at preſent, though gravely reported by hiſtorians, that in old Rome there was a law, for cutting into pieces the body of a bankrupt, and diſtributing the parts among his creditors? The ſtory of Porſenna and Scevola is highly romantic; and the ſtory of Vampires in Hungary, ſhameſully abſurd. There is no reaſon to believe, there ever was ſuch a ſtate as that of the Amazons; and the ſtory of Thaleſtris and Alexander the Great is certainly a fiction.

[a] Preface, § 28.

[b] Part 1. book 1. title 4. § 4.

Scotch hiſtorians deſcribe gravely and circumſtantially the battle of Luncarty, as if they had been eye-witneſſes. A peaſant and his two ſons, it is ſaid, were ploughing in an adjacent field, during the heat of the action. Enraged at their countrymen for turning their backs, they broke the plough in pieces; and each laying hold of a part, ruſhed into the midſt of the battle, and obtained a complete victory over the Danes. This ſtory has every mark of fiction: A man following out unconcernedly his ordinary occupation of ploughing, in ſight of a battle, on which depended his wife and children, his goods, and perhaps his own life: three men, without rank or figure, with only a ſtick in the hand of each, ſtemming the tide of victory, and turning the fate of battle. I mention not that a plough was unknown in Scotland for a century or two after that battle; for that circumſtance could not create a doubt in the hiſtorian, if he was ignorant of it.

Reaſon, with reſpect to its progreſs, is ſingular. Morals, manners, and every thing that appears externally, may in part be acquired by imitation and example; which have not the ſlighteſt influence upon the reaſoning faculty. The only means for advancing that faculty to maturity, are indefatigable ſtudy and practice; and even theſe will not carry a man one ſtep beyond the ſubjects he is converſant about: examples are not rare of men extremely expert in one ſcience, and groſsly deficient in others. Many able mathematicians are novices in politics, and even in the common arts of life: ſtudy and

practice have ripened them in every relation of equality, while they remain ignorant, like the vulgar, about other relations. A man, in like manner, who has bestowed much time and thought in political matters, may be a child as to other branches of knowledge [11].

I proceed to the second article, containing erroneous reasoning occasioned by natural biasses. The first bias I shall mention has an extensive influence. What is seen, makes a deeper impression than what is reported, or discovered by reflection. Hence it is, that in judging of right and wrong, the ignorant and illiterate are struck with the external act only, without penetrating into will or intention which lie out of sight. Thus with respect to covenants, laws, vows, and other acts that are completed by words, the whole weight in days of ignorance is laid upon the external expression, with no regard to the meaning of the speaker or writer. The blessing bestowed by Isaac upon his son Jacob, mistaking him for Esau, is an illustrious instance. Not only

[11] Pascal, the celebrated author of *Lettres provinciales*, in order to explain the infinity and indivisibility of the Deity, has the following words. "I will show you a thing both "infinite and indivisible. It is a point moving with infinite "celerity: that point is in all places at once, and entire in "every place." What an absurdity, says Voltaire, to ascribe motion to a mathematical point, that has no existence but in the mind of the geometer! that it can be every where at the same instant, and that it can move with infinite celerity! as if infinite celerity could actually exist. Every word, adds he, is big with absurdity; and yet he was a great man who uttered that stuff.

was the bleſſing intended for Eſau, but Jacob, by deceiving his father, had rendered himſelf unworthy of it [10]; yet Iſaac had pronounced the ſounds, and it was not in his power to unſay them: *Neſcit vox miſſa reverti* [11]. Joſhua, groſsly impoſed on by the Gibeonites denying that they were Cananites, made a covenant with them; and yet, though he found them to be Cananites, he held himſelf to be bound. Led by the ſame bias, people think it ſufficient to fulfil the words of a vow, however ſhort of intention. The Duke of Lancaſter, vexed at the obſtinate reſiſtance of Rennes, a town in Britany, vowed in wrath not to raiſe the ſiege till he had planted the Engliſh colors upon one of the gates. He found it neceſſary to raiſe the ſiege; but his vow ſtood in the way. The governor relieved him from his ſcruple, permitting him to plant his colors upon one of the gates; and he was ſatisfied that his vow was fulfilled. The following is an example of an abſurd concluſion deduced from a precept taken literally, againſt common ſenſe. We are ordered by the Apoſtle, to pray always; from which Jerom, one of the fathers, argues thus: "Conjugal enjoy-"ment is inconſiſtent with praying; *ergo*, conjugal "enjoyment is a ſin." By the ſame argument it may be proved, that eating and drinking are ſins; and that ſleeping is a great ſin, being a great in-

[10] Geneſis, chap. 27.

[11] Many more are killed by a fall from a horſe or by a fever, than by thunder. Yet we are much more afraid of the latter. It is the ſound that terrifies; though every man knows that the danger is over when he hears the ſound.

terruption to praying. With respect to another text, "That a bishop must be blameless, the husband of "one wife" taken literally, a very different conclusion is drawn in Abyssinia, That no man can be ordained a presbyter till he be married. Prohibitions have been interpreted in the same shallow manner. Lord Clarendon gives two instances, both of them relative to the great fire of London. The mayor proposing to pull down a house in order to stop the progress of the fire, was opposed by the lawyers, who declared the act to be unlawful; and the house was burnt without being pulled down. About the same time it was proposed to break open some houses in the temple for saving the furniture, the possessors being in the country; but it was declared burglary to force open a door without consent of the possessor. Such literal interpretation, contrary to common sense, has been extended even to inflict punishment. Isadas was bathing when the alarm was given in Lacedemon, that Epaminondas was at hand with a numerous army. Naked as he was, he rushed against the enemy with a spear in one hand and a sword in the other, bearing down all before him. The Ephori fined him for going to battle unarmed; but honored him with a garland for his gallant behaviour. How absurd to think that the law was intended for such a case! and how much more absurd to think, that the same act ought to be both punished and rewarded! The King of Castile being carried off his horse by a hunted hart, was saved by a person at hand, who cut his belt. The judges thought a pardon absolutely requisite,

to relieve from capital puniſhment a man who had lifted a ſword againſt his ſovereign [*]. It is a ſalutary regulation, that a man who is abſent cannot be tried for his life. Pope Formoſus died ſuddenly without ſuffering any puniſhment for his crimes. He was raiſed from his grave, dreſſed in his pontifical habit; and in that ſhape a criminal proceſs went on againſt him. Could it ſeriouſly be thought, that a rotten carcaſe brought into court was ſufficient to fulfil the law? The ſame abſurd farce was played in Scotland, upon the body of Logan of Reſtalrig, ſeveral years after his interment. The body of Tancred King of Sicily was raiſed from the grave, and the head cut off for ſuppoſed rebellion. Henry IV. of Caſtile was depoſed in abſence; but, for a color of juſtice, the following ridiculous ſcene was acted. A wooden ſtatue dreſſed in a royal habit, was placed on a theatre; and the ſentence of depoſition was ſolemnly read to it, as if it had been the King himſelf. The Archbiſhop of Toledo ſeized the crown, another the ſceptre, a third the ſword; and the ceremony was concluded with proclaiming another king. How humbling are ſuch ſcenes to man, who values himſelf upon the faculty of reaſon as his prime attribute! An expedient of that kind would now be rejected with diſdain, as fit only to amuſe chil-

[*] A perſon unacquainted with the hiſtory of law, will imagine that Swift has carried beyond all bounds his ſatire againſt lawyers, in ſaying, that Gulliver had incurred a capital puniſhment, for ſaving the Emperor's palace by piſſing out the fire; it being capital in any perſon of what quality ſoever, to make water within the precincts of the palace.

dren; and yet it grieves me to obſerve that law-proceedings are not yet totally purged of ſuch abſurdities. By a law in Holland, the criminal's confeſſion is eſſential to a capital puniſhment, no other evidence being held ſufficient: and yet if he inſiſt on his innocence, he is tortured till he pronounce the words of confeſſion; as if ſounds merely were ſufficient, without will or intention. The practice of England in a ſimilar caſe, is no leſs abſurd. Confeſſion is not there required; but it is required, that the perſon accuſed ſhall plead, and ſay whether he be innocent or guilty. But what if he ſtand mute? He is preſſed down by weights till he plead; and if he continue mute, he is preſſed till he give up the ghoſt, a torture known by the name of *Peine forte & dure* [11]. Further, law copying religion, has exalted ceremonies above the ſubſtantial part. In England, ſo ſtrictly has form been adhered to, as to make the moſt trivial defect in words fatal, however certain the meaning be. *Murdredavit* for *murdravit*, *feloniter* for *felonice*, have been adjudged to vitiate an indictment. *Burgariter* for *burglariter* hath been a fatal objection; but *burgulariter* hath been holden good. Webſter being indicted for murder, and the ſtroke being laid "ſiniſtro *bracio*" inſtead of "*brachio*," he was diſmiſſed. *A. B. alias dictus A. C. Butcher*, was found

[11] Since the above was written, the parliament has enacted, That perſons arraigned for felony or piracy, who ſtand mute, or refuſe to anſwer directly to the indictment, ſhall be held as confeſſing, and judgment ſhall paſs againſt them, as if they had been convicted by verdict or confeſſion.

to vitiate the indictment; becauſe it ought to have been *A. B. Butcher, alias dictus A. C. Butcher.* So *gladium in dextra ſua*, without *manu.*

No bias in human nature is more prevalent than a deſire to anticipate futurity, by being made acquainted beforehand with what will happen. It was indulged without reſerve in dark times; and hence omens, auguries, dreams, judicial aſtrology, oracles, and prophecies, without end. It ſhows ſtrange weakneſs not to ſee, that ſuch foreknowledge would be a giſt more pernicious to man than Pandora's box: it would deprive him of every motive to action; and leave no place for ſagacity, nor for contriving means to bring about a deſired event. Life is an enchanted caſtle, opening to intereſting views that inflame the imagination and excite induſtry. Remove the vail that hides futurity.— To inactive, buſtling, animating ſcene, ſucceeds a dead ſtupor, men converted into ſtatues; paſſive like inert matter, becauſe there remains not a ſingle motive to action. Anxiety about futurity rouſes our ſagacity to prepare for what may happen; but an appetite to know what ſagacity cannot diſcover, is a weakneſs in nature inconſiſtent with every rational principle [16].

Propenſity to things rare and wonderful, is a natural bias no leſs univerſal than the former. Any ſtrange or unaccountable event rouſes the attention, and inflames the mind: we ſuck it in

[16] Foreknowledge of future events, differs widely from a conviction, that all events are fixed and immutable: the latter leaves us free to activity; the former annihilates all activity.

greedily, wiſh it to be true, and believe it to be true, upon the ſlighteſt evidence [17]. A hart taken in the foreſt of Senlis by Charles VI. of France, bore a collar upon which was inſcribed, *Cæſar hoc me donavit* [18]. Every one believed that a Roman Emperor was meant, and that the beaſt muſt have lived at leaſt a thouſand years; overlooking that the Emperor of Germany is alſo ſtyled *Cæſar*, and that it was not neceſſary to go back fifty years. This propenſity diſplays itſelf even in childhood: ſtories of ghoſts and apparitions are anxiouſly liſtened to; and firmly believed, by the terror they occaſion: the vulgar accordingly have been captivated with ſuch ſtories, upon evidence that would not be ſufficient to aſcertain the ſimpleſt fact. The abſurd and childiſh prodigies that are every where ſcattered through the hiſtory of Titus Livius, not to mention other ancient hiſtorians, would be unaccountable in a writer of ſenſe and gravity, were it not for the propenſity mentioned. But human belief is not left at the mercy of every irregular bias: our maker has ſubjected belief to the correction of the rational faculty; and accordingly, in proportion as reaſon advances towards maturity, wonders, prodigies, apparitions, incantations, witchcraft, and ſuch ſtuff, loſe their influence. That reformation however has been exceedingly ſlow, becauſe the propenſity is exceedingly ſtrong. Such abſurdities found credit among wiſe men even as late as the laſt age. I am ready to verify the charge, by introducing two

[17] See Elements of Criticiſm, vol. 1. p. 163.

[18] "Cæſar gave me this."

men

men of the firſt rank for underſtanding: were a number neceſſary, there would be no difficulty of making a very long catalogue. The celebrated Grotius ſhall lead the van. Procopius in his Vandal hiſtory relates, that ſome orthodox Chriſtians, whoſe tongues were cut out by the Arians, continued miraculouſly to ſpeak as formerly. And to vouch the fact, he appeals to ſome of thoſe miraculous perſons, alive in Conſtantinople at the time of his writing. In the dark ages of Chriſtianity, when different ſects were violently inflamed againſt each other, it is not ſurpriſing that groſs abſurdities were ſwallowed as real miracles: but is it not ſurpriſing, and alſo mortifying, to find Grotius, the greateſt genius of the age he lived in, adopting ſuch abſurdities? For the truth of the foregoing miracle, he appeals not only to Procopius, but to ſeveral other writers [19]; as if the hearſay of a few writers were ſufficient to make us believe an impoſſibility. Could it ſeriouſly be his opinion, that the great God who governs by general laws, permitting the ſun to ſhine alike upon men of whatever religion, would miraculouſly ſuſpend the laws of nature, in order to teſtify his diſpleaſure at an honeſt ſect of Chriſtians, led innocently into error? Did he alſo believe what Procopius adds, that two of theſe orthodox Chriſtians were again deprived of ſpeech, as a puniſhment inflicted by the Almighty for cohabiting with proſtitutes?

I proceed to our famous hiſtorian, the Earl of

[19] Prolegomena to his Hiſtory of the Goths.

Clarendon, the other perſon I had in view. A ma long in public buſineſs, a conſummate politician and well ſtored with knowledge from books as wel as from experience, might be ſortified againſ fooliſh miracles, if any man can be fortified: an yet behold his ſuperſtitious credulity in childiſ ſtories; no leſs weak in that particular, than wa his contemporary Grotius. He gravely relates a incident concerning the aſſaſſination of the Duke o Buckingham, the ſum of which follows. "There "were many ſtories ſcattered abroad at that time "of prophecies and predictions of the Duke's un- "timely and violent death; one of which wa "upon a better foundation of credit, than uſually "ſuch diſcourſes are founded upon. There wa "an officer in the King's wardrobe in Windſo "caſtle, of reputation for honeſty and diſcretion "and at that time about the age of fifty. Abou "ſix months before the miſerable end of the Duke "this man being in bed and in good health, there "appeared to him at midnight a man of a venerable "aſpect, who drawing the curtains and fixing his "eye upon him, ſaid, Do you know me, Sir. The "poor man, half dead with fear, anſwered, That "he thought him to be Sir George Villiers, father "to the Duke. Upon which he was ordered by "the apparition, to go to the Duke and tell him, "that if he did not ſomewhat to ingratiate himſelf "with the people, he would be ſuffered to live "but a ſhort time. The ſame perſon appeared to "him a ſecond and a third time, reproaching him "bitterly for not performing his promiſe. The poor

" man plucked up as much courage as to excuſe
" himſelf, that it was difficult to find acceſs to the
" Duke, and that he would be thought a madman.
" The apparition imparted to him ſome ſecrets,
" which he ſaid would be his credentials to the
" Duke. The officer, introduced to the Duke by
" Sir Ralph Freeman, was received courteouſly.
" They walked together near an hour; and the
" Duke ſometimes ſpoke with great commotion,
" though his ſervants with Sir Ralph were at ſuch
" a diſtance that they could not hear a word. The
" officer, returning from the Duke, told Sir Ralph,
" that when he mentioned the particulars that were
" to gain him credit, the Duke's color changed;
" and he ſwore the officer could come to that
" knowledge only by the devil; for that theſe
" particulars were known only to himſelf, and to
" one perſon more, of whoſe fidelity he was ſecure.
" The Duke, who went to accompany the King
" at hunting, was obſerved to ride all the morning
" in deep thought; and before the morning was
" ſpent, left the field and alighted at his mother's
" houſe, with whom he was ſhut up for two or
" three hours. When the Duke left her, his coun-
" tenance appeared full of trouble, with a mixture
" of anger, which never appeared before in con-
" verſing with her: and ſhe was found overwhelmed
" with tears, and in great agony. Whatever there
" was of all this, it is a notorious truth, that when
" ſhe heard of the Duke's murder, ſhe ſeemed not
" in the leaſt ſurpriſed, nor did expreſs much
" ſorrow."

The name of Lord Clarendon calls for mor attention to the foregoing relation than otherwiſe i would deſerve. It is no article of the Chriſtia faith, that the dead preſerve their connexion wit the living, or are ever ſuffered to return to thi world: we have no ſolid evidence for ſuch a fact and rarely hear of it, except in tales for amuſing o terrifying children. Secondly, The ſtory is incon ſiſtent with the ſyſtem of Providence; which, fo the beſt purpoſes, has drawn an impenetrable vei between us and futurity. Thirdly, This apparition though ſuppoſed to be endowed with a miraculou knowledge of future events, is however deficien in the ſagacity that belongs to a perſon of ordinary underſtanding. It appears twice to the officer without thinking of giving him proper credentials; nor does it think of them till ſuggeſted by the officer. Fourthly, Why did not the apparition go directly to the Duke himſelf; what neceſſity for employing a third perſon? The Duke muſt have been much more affected with an apparition to himſelf, than with the hearing it at ſecond hand. The officer was afraid of being taken for a madman; and the Duke had ſome reaſon to think him ſuch. Laſtly, The apparition happened above three months before the Duke's death; and yet we hear not of a ſingle ſtep taken by him, in purſuance of the advice he got. The authority of the hiſtorian and the regard we owe him, have drawn from me the foregoing reflections, which with reſpect to the ſtory itſelf are very little neceſſary; for the evidence is really not ſuch as to verify any ordinary

ccurrence. His Lordſhip acknowledges, that he ad no evidence but common report, ſaying, that was one of the many ſtories ſcattered abroad at hat time. He does not ſay, that the ſtory was elated to him by the officer, whoſe name he does ot even mention, or by Sir Ralph Freeman, or y the Duke, or by the Duke's mother. If any hing happened like what is related, it may with ood reaſon be ſuppoſed that the officer was crazy r enthuſiaſtically mad: nor have we any evidence eyond common report, that he communicated ny ſecret to the Duke. Here are two remarkable nſtances of an obſervation made above, that a an may be high in one ſcience and very low in nother. Had Grotius, or had Clarendon, ſtudied he fundamentals of reaſon and religion coolly and mpartially, as they did other ſciences, they would ever have given faith to reports ſo ill vouched, nd ſo contradictory to every ſound principle of heology.

Another ſource of erroneous reaſoning, is a ſingular tendency in the mind of man to myſteries nd hidden meanings. Where an object makes deep impreſſion, the buſy mind is ſeldom ſatisfied with the ſimple and obvious intendment: invention s rouſed to allegorize, and to pierce into hidden iews and purpoſes. I have a notable example t hand, with reſpect to forms and ceremonies in eligious worſhip, Joſephus [20], talking of the tabernacle, has the following paſſage. "Let any

[20] Jewiſh Antiquities, book 3.

" man conſider the ſtructure of the tabernacle, th
" ſacerdotal veſtments, the veſſels dedicated to th
" ſervice of the altar; and he muſt of neceſſity b
" convinced, that our lawgiver was a pious man
" and that all the clamors againſt us and ou
" profeſſion, are mere calumny. For what are a
" of theſe but the image of the whole world
" This will appear to any man who ſoberly an
" impartially examines the matter. The tabernacl
" of thirty cubits is divided into three parts; two
" for the prieſts in general, and as free to them
" as the earth and the ſea; the third, where no
" mortal muſt be admitted, is as the heaven, re
" ſerved for God himſelf. The twelve loaves o
" ſhow-bread ſignify the twelve months of th
" year. The candleſtick, compoſed of ſeven bran
" ches, refers to the twelve ſigns of the zodiac
" through which the ſeven planets ſhape thei
" courſe; and the ſeven lamps on the top of th
" ſeven branches bear an analogy to the planet
" themſelves. The curtains of four colors repreſen
" the four elements. The fine linen ſignifies th
" earth, as flax is raiſed there. By the purple i
" underſtood the ſea, from the blood of the murex
" which dies that color. The violet color is
" ſymbol of the air; and the ſcarlet of the fire
" By the linen garment of the high-prieſt, is de
" ſigned the whole body of the earth: by th
" violet color the heavens. The pomegranate
" ſignify lightning: the bells tolling ſignify thun
" der. The four-colored ephod bears a reſemblance
" to the very nature of the univerſe, and the in

" terweaving it with gold has a regard to the " rays of light. The girdle about the body of " the prieſt is as the ſea about the globe of the " earth. The two ſardonyx ſtones are a kind of " figure of the ſun and moon; and the twelve " other ſtones may be underſtood, either of the " twelve months, or of the twelve ſigns in the " zodiac. The violet-colored tiara is a reſemblance " of heaven; and it would be irreverent to have " written the ſacred name of God upon any other " color. The triple crown and plate of gold give " us to underſtand the glory and majeſty of Al- " mighty God. This is a plain illuſtration of " theſe matters; and I would not loſe any oppor- " tunity of doing juſtice to the honor and wiſdom " of our incomparable lawgiver." How wire-drawn and how remote from any appearance of truth, are the foregoing alluſions and imagined reſemblances! But religious forms and ceremonies, however arbitrary, are never held to be ſo. If an uſeful purpoſe do not appear, it is taken for granted that there muſt be a hidden meaning; and any meaning, however childiſh, will ſerve when a better cannot be found. Such propenſity there is in dark ages for allegorizing, that even our Saviour's miracles have not eſcaped. Wherever any ſeeming difficulty occurs in the plain ſenſe, the fathers of the church, Origen, Auguſtine, and Hilary, are never at a loſs for a myſtic meaning. " Sacrifice to the celeſtial gods with an odd num- " ber, and to the terreſtrial gods with an even " number," is a precept of Pythagoras. Another

is, "Turn round in adoring the gods, and ſit "down when thou haſt worſhipped." The learned make a ſtrange pother about the hidden meaning of theſe precepts. But, after all, have they any hidden meaning? Forms and ceremonies are uſeful in external worſhip, for occupying the vulgar; and it is of no importance what they be, provided they prevent the mind from wandering. Why ſuch partiality to ancient ceremonies, when no hidden meaning is ſuppoſed in thoſe of Chriſtians, ſuch as bowing to the eaſt, or the prieſt performing the liturgy, partly in a black upper garment, partly in a white? No ideas are more ſimple than of numbers, nor leſs ſuſceptible of any hidden meaning; and yet the profound Pythagoras has imagined many ſuch meanings. The number *one*, ſays he, having no parts, repreſents the Deity: it repreſents alſo order, peace, and tranquillity, which reſult from unity of ſentiment. The number *two* repreſents diſorder, confuſion, and change. He diſcovered in the number *three* the moſt ſublime myſteries: all things are compoſed, ſays he, of three ſubſtances. The number *four* is holy in its nature, and conſtitutes the divine eſſence, which conſiſts in unity, power, benevolence, and wiſdom. Would one believe, that the great philoſopher, who demonſtrated the 47th propoſition of the firſt book of Euclid, was the inventor of ſuch childiſh conceits? Perhaps Pythagoras meant only to divert himſelf with them. Whether ſo or not, it ſeems difficult to be explained, how ſuch trifles were preſerved in memory, and handed down to

us through ſo many generations. All that can be ſaid is, that during the infancy of knowledge, every novelty makes a figure, and that it requires a long courſe of time to ſeparate the corn from the chaff [21]. A certain writer, ſmitten with the conceit of hidden meanings, has applied his talent to the conſtellations of the zodiac. The *lion* typifies the force or heat of the ſun in the month of July, when he enters that conſtellation. The conſtellation where the ſun is in the month of Auguſt is termed the *virgin*, ſignifying the time of harveſt. He enters the *balance* in September, denoting the equality of day and night. The *ſcorpion*, where he is found in October, is an emblem of the diſeaſes that are frequent during that month, &c. The *balance*, I acknowledge, is well hit off; but I ſee not clearly the reſemblance of the force of a lion to the heat of the ſun; and ſtill leſs that of harveſt to a virgin: the ſpring would be more happily repreſented by a virgin, and the harveſt by a woman in the act of delivery.

[21] The following precepts of the ſame philoſopher, though now only fit for the *Child's Guide*, were originally cheriſhed, and preſerved in memory, as emanations of ſuperior wiſdom. "Do not enter a temple for worſhip, but with a "decent air. Render not life painful by undertaking too "many affairs. Be always ready for what may happen. "Never bind yourſelf by a vow, nor by an oath. Irritate "not a man who is angry." The ſeven wiſe men of Greece made a figure in their time; but it would be unreaſonable to expect, that what they taught during the infancy of knowledge, ſhould make a figure in its maturity.

Our tendency to myſtery and allegory, diſplays itſelf with great vigor in thinking of our forefathers and of the ancients in general, by means of the veneration that is paid them. Before writing was known, ancient hiſtory is made up of traditional fables. A Trojan Brutus peopled England; and the Scots are deſcended from Scota, daughter to an Egyptian king. Have we not equally reaſon to think, that the hiſtories of the heathen gods are involved in fable? We pretend not to draw any hidden meaning from the former: why ſhould we ſuſpect any ſuch meaning in the latter? Allegory is a ſpecies of writing too refined for a ſavage or barbarian: it is the fruit of a cultivated imagination; and was a late invention even in Greece. The allegories of Eſop are of the ſimpleſt kind: yet they were compoſed after learning began to flouriſh; and Cebes, whoſe allegory about the life of man is juſtly celebrated, was a diſciple of Socrates. Prepoſſeſſion however in favor of the ancients makes us conclude, that there muſt be ſome hidden meaning or allegory in their hiſtorical fables; for no better reaſon than that they are deſtitute of common ſenſe. In the Greek mythology, there are numberleſs fables related as hiſtorical facts merely; witneſs the fable of gods mixing with women, and procreating giants, like what we find in the fabulous hiſtories of many other nations. Theſe giants attempt to dethrone Jupiter: Apollo keeps the ſheep of Admetus: Minerva ſprings from the head of Jove[22]: Bacchus is cut out of his thigh:

[22] However eaſy it may be to draw an allegorical mean-

Orpheus goes to hell for his wife: Mars and Venus are caught by Vulcan in a net; and a thouſand other ſuch childiſh ſtories. But the Greeks, many centuries after the invention of ſuch fooliſh fables, became illuſtrious for arts and ſciences; and nothing would ſatisfy writers in later times, but to dub them profound philoſophers, even when mere ſavages. Hence endleſs attempts to detect myſteries and hidden meanings in their fables. Let other interpreters of that kind paſs: they give me no concern. But I cannot, without the deepeſt concern, behold our illuſtrious philoſopher Bacon employing his talents ſo abſurdly. What imbecility muſt there be in human nature, when ſo great a genius is capable of ſuch puerilities! As a ſubject ſo humbling is far from being agreeable, I confine myſelf to a few inſtances. In an ancient fable, Prometheus formed man out of clay; and kindling a bundle of birch-rods at the chariot of the ſun, brought down fire to the earth for the uſe of his creature man. And though ungrateful man complained to Jupiter of that theft, yet the god, pleaſed with the ingenuity of Prometheus, not only con-

ing out of that fable, I cannot admit any ſuch meaning to have been intended. An allegory is a fable contrived to illuſtrate ſome acknowledged truth, by making a deeper impreſſion than the truth would make in plain words; of which we have ſeveral beautiful inſtances in the Spectator (Elements of Criticiſm, chap. 20. § 6.) But the fable here was underſtood to be a matter of fact, Minerva being worſhipped by the Greeks as a real goddeſs, the daughter of Jupiter without a mother.

firmed to man the uſe of fire, but conferred on him a gift much more conſiderable: the gift was perpetual youth, which was laid upon an aſs to be carried to the earth. The aſs, wanting to drink at a brook, was oppoſed by a ſerpent, who inſiſted to have the burden, without which, no drink for the poor aſs. And thus, for a draught of plain water, was perpetual youth transferred from man to the ſerpent. This fable has a ſtriking reſemblance to many in the Edda; and, in the manner of the Edda, accounts for the invention of fire, and for the mortality of man. Nor is there in all the Edda one more childiſh, or more diſtant from any appearance of a rational meaning. It is handled however by our philoſopher with much ſolemn gravity, as if every ſource of wiſdom were locked up in it. The explanation he gives, being too long to be copied here, ſhall be reduced to a few particulars. After an elogium upon fire, his Lordſhip proceeds thus. "The manner wherein Prometheus ſtole his fire, is properly deſcribed from "the nature of the thing; he being ſaid to have "done it by applying a rod of birch to the chariot "of the ſun: for birch is uſed in ſtriking and "beating; which clearly denotes fire to proceed "from violent percuſſions and colliſions of bodies, "whereby the matters ſtruck are ſubtilized, rarefied, put into motion, and ſo prepared to receive "the heat of the celeſtial bodies. And accordingly "they, in a clandeſtine and ſecret manner, ſnatch "fire, as it were by ſtealth, from the chariot of "the ſun." He goes on as follows. "The next

" is a remarkable part of the fable; which repre-
" ſents, that men, inſtead of gratitude, accuſed both
" Prometheus and his fire to Jupiter: and yet the
" accuſation proved ſo pleaſant to Jupiter, that he
" not only indulged mankind the uſe of fire, but
" conferred upon them perpetual youth. Here it
" may ſeem ſtrange, that the ſin of ingratitude
" ſhould meet with approbation or reward. But
" the allegory has another view; and denotes, that
" the accuſation both of human nature and human
" art, proceeds from a noble and laudable temper
" of mind, viz. modeſty; and alſo tends to a very
" good purpoſe, viz. to ſtir up freſh induſtry and
" new diſcoveries." Can any thing be more wire-drawn?

Vulcan, attempting the chaſtity of Minerva, had recourſe to force. In the ſtruggle, his *ſemen*, falling upon the ground, produced Erictonius; whoſe body from the middle upward was comely and well proportioned, his thighs and legs ſmall and deformed like an eel. Conſcious of that defect, he was the inventor of chariots; which ſhowed the graceful part of his body, and concealed what was deformed. Liſten to the explanation of this ridiculous fable. " Art, by the various uſes it
" makes of fire, is here repreſented by Vulcan:
" and Nature is repreſented by Minerva, becauſe
" of the induſtry employed in her works. Art,
" when it offers violence to Nature in order to
" bend her to its purpoſe, ſeldom attains the end
" propoſed. Yet, upon great ſtruggle and appli-
" cation, there proceed certain imperfect births,

" or lame abortive works; which however, with " great pomp and deceitful appearances, are trium- " phantly carried about, and ſhown by impoſtors." I admit the ingenuity of that forced meaning; but had the inventor of that fable any latent meaning? If he had, why did he conceal it? The ingenious meaning would have merited praiſe; the fable itſelf none at all.

I ſhall add but one other inſtance, for they grow tireſome. Sphinx was a monſter, having the face and voice of a virgin, the wings of a bird, and the talons of a gryphin. She reſided on the ſummit of a mountain, near the city Thebes. Her manner was, to lie in ambuſh for travellers, to propoſe dark riddles which ſhe received from the Muſes, and to tear thoſe to pieces who could not ſolve them. The Thebans having offered their kingdom to the man who ſhould interpret theſe riddles, Oedipus preſented himſelf before the monſter, and he was required to explain the following riddle: What creature is that, which being born four-footed, becomes afterwards two-footed, then three-footed, and laſtly four-footed again. Oedipus anſwered, It was man, who in his infancy crawls upon his hands and feet, then walks upright upon his two feet, walks in old age with a ſtick, and at laſt lies four-footed in bed. Oedipus having thus obtained the victory, ſlew the monſter; and laying the carcaſe upon an aſs, carried it off in triumph. Now for the explanation. " This is " an elegant and inſtructive fable, invented to " repreſent ſcience: for Science may be called a

" monſter, being ſtrangely gazed at and admired " by the ignorant. Her figure and form is various, " by reaſon of the vaſt variety of ſubjects that " ſcience conſiders. Her voice and countenance " are repreſented female, by reaſon of her gay " appearance, and volubility of ſpeech. Wings " are added, becauſe the ſciences and their inven- " tions fly about in a moment; for knowledge, " like light communicated from torch to torch, " is preſently catched, and copiouſly diffuſed. " Sharp and hooked talons are elegantly attributed " to her; becauſe the axioms and arguments of " ſcience fix down the mind, and keep it from " moving or ſlipping away." Again: " All ſcience " ſeems placed on high, as it were on the tops of " mountains that are hard to climb: for ſcience is " juſtly imagined a ſublime and lofty thing, look- " ing down upon ignorance, and at the ſame time " taking an extenſive view on all ſides, as is uſual " on the tops of mountains. Sphinx is ſaid to " propoſe difficult queſtions and riddles, which ſhe " received from the Muſes. Theſe queſtions, " while they remain with the Muſes, may be plea- " ſant, as contemplation and inquiry are when " knowledge is their only aim: but after they are " delivered to Sphinx, that is, to practice, which " impels to action, choice, and determination; " then it is that they become ſevere and torturing; " and unleſs ſolved, ſtrangely perplex the human " mind, and tear it to pieces. It is with the utmoſt " elegance added in the fable, that the carcaſe of " Sphinx was laid upon an aſs; for there is nothing

" ſo ſubtile and abſtruſe, but after being made
" plain, may be conceived by the ſloweſt capacity."
According to ſuch latitude of interpretation, there
is nothing more eaſy than to make *quidlibet ex*
*quolibet.*

" *Who would not laugh if ſuch a man there be?*
" *Who would not weep if Atticus were he?*"

I will detain the reader but a moment longer,
to hear what our author ſays in juſtification of
ſuch myſterious meaning. Out of many reaſons,
I ſelect the two following. "It may paſs for a
" farther indication of a concealed and ſecret mean-
" ing, that ſome of theſe fables are ſo abſurd and
" idle in their narration, as to proclaim an alle-
" gory even afar off. A fable that carries proba-
" bility with it, may be ſuppoſed invented for
" pleaſure, or in imitation of hiſtory; but what
" could never be conceived or related in this way
" muſt ſurely have a different uſe. For example,
" what a monſtrous fiction is this, That Jupiter
" ſhould take *Metis* to wife; and as ſoon as he
" found her pregnant eat her up; whereby he
" alſo conceived, and out of his head brought
" forth *Pallas* armed! Certainly no mortal could,
" but for the ſake of the moral it couches, invent
" ſuch an abſurd dream as this, ſo much out of
" the road of thought." At that rate, the more
ridiculous or abſurd a fable is, the more inſtructive
it muſt be. This opinion reſembles that of the
ancient Germans with reſpect to mad women,
who

who were held to be ſo wiſe, as that every thing they uttered was prophetic. Did it never occur to our authot, that in the infancy of the reaſoning faculty, the imagination is ſuffered to roam without controul, as in a dream; and that the vulgar in all ages are delighted with wonderful ſtories; the more out of nature, the more to their taſte?

We proceed to the other reaſon. "The argument of moſt weight with me is, That many of "theſe fables appear not to have been invented by "the perſons who relate and divulge them, whether Homer, Heſiod, or others; for if I were "aſſured they firſt flowed from thoſe later times "and authors, I ſhould never expect any thing "ſingularly great or noble from ſuch an origin. "But whoever attentively conſiders the thing, "will find, that theſe fables are delivered down by "thoſe writers, not as matters then firſt invented, "but as received and embraced in earlier ages. "And this principally raiſes my eſteem of thoſe "fables; which I receive, not as the product of "the age, or invention of the poets, but as ſacred "relics, gentle whiſpers, and the breath of better "times, that from the traditions of more ancient "nations, came at length into the flutes and trumpets of the Greeks." Was it our author's ſincere opinion, that the farther back we trace the hiſtory of man, the more of ſcience and knowledge is found; and conſequently that ſavages are the moſt learned of all men?

The following fable of the ſavage Canadians ought to be myſterious, if either of the reaſons

urged above be concluſive. "There were in the "beginning but ſix men in the world, (from "whence ſprung is not ſaid:) one of theſe aſcended "to heaven in queſt of a woman named *Atahentſic*, "and had carnal knowledge of her. She being "thrown headlong from the height of the empy-"rean, was received on the back of a tortoiſe, "and delivered of two children one of whom "ſlew the other." This fable is ſo abſurd, that it muſt have a latent meaning; and one needs but copy our author to pump a deep myſtery out of it, however little intended by the inventor. And if either abſurdity or antiquity entitle fables to be held ſacred relics, gentle whiſpers, and the breath of better times, the following Japaneſe fables are well entitled to theſe diſtinguiſhing epithets. "Bun-ſio, in wedlock, having had no children for many years, addreſſed her prayers to the gods, was heard, and was delivered of 500 eggs. Fearing that the eggs might produce monſters, ſhe packed them up in a box, and threw them into the river. An old fiſherman finding the box, hatched the eggs in an oven, every one of which produced a child. The children were fed with boiled rice and mugwort-leaves; and being at laſt left to ſhift for themſelves, they fell a robbing on the highway. Hearing of a man famous for great wealth, they told their ſtory at his gate, and begged ſome food. This happening to be the houſe of their mother, ſhe owned them for her children, and gave a great entertainment to her friends and neighbours. She was afterward inliſted among the goddeſſes by the

name of *Benſaiten*: her 500 ſons were appointed to be her attendants; and to this day ſhe is worſhipped in Japan as the goddeſs of riches." Take another fable of the ſame ſtamp. The Japaneſe have a table of lucky and unlucky days, which they believe to have been compoſed by Abino Seimei, a famous aſtrologer, and a ſort of demi-god. They have the following tradition of him. "A young fox, purſued by hunters, fled into a temple, and took ſhelter in the boſom of Abino Jaſſima, ſon and heir to the king of the country. Refuſing to yield the poor creature to the unmerciful hunters, he defended himſelf with great bravery, and ſet the fox at liberty. The hunters, through reſentment againſt the young prince, murdered his royal father; but Jaſſima revenged his father's death, killing the traitors with his own hand. Upon this ſignal victory, a lady of incomparable beauty appeared to him, and made ſuch an impreſſion on his heart, that he took her to wife. Abino Seimei, procreated of that marriage, was endowed with divine wiſdom, and with the precious gift of prophecy. Jaſſima was ignorant that his wife was the very fox whoſe life he had ſaved, till ſhe reſumed by degrees her former ſhape." If there be any hidden myſtery in this tale, I ſhall not deſpair of finding a myſtery in every fairy-tale invented by Madam Gomez.

It is lamentable to obſerve the ſlow progreſs of human underſtanding and the faculty of reaſon. If this reflection be verified in our celebrated philoſopher Bacon, how much more in others? It is

comfortable, however, that human underſtanding is in a progreſs toward maturity, however ſlow. The fancy of allegorizing ancient fables, is now out of faſhion: enlightened reaſon has unmaſked theſe fables, and left them in their nakedneſs, as the invention of illiterate ages when wonder was the prevailing paſſion.

Having diſcuſſed the firſt two heads, I proceed to the third, viz. Erroneous reaſoning occaſioned by acquired biaſſes. And one of theſe that has the greateſt influence in perverting the rational faculty, is blind religious zeal. There is not in nature a ſyſtem more ſimple or perſpicuous than that of pure religion; and yet what a complication do we find in it of metaphyſical ſubtilities and unintelligible jargon! That ſubject being too well known to need illuſtration, I ſhall confine myſelf to a few inſtances of the influence that religious ſuperſtition has on other ſubjects.

A hiſtory-painter and a player require the ſame ſort of genius. The one by colors, the other by looks and geſtures, expreſs various modifications of paſſion, even what are beyond the reach of words; and to accompliſh theſe ends, great ſenſibility is requiſite, as well as judgment. Why then is not a player equally reſpected with a hiſtory-painter? It was thought by zealots, that a play is an entertainment too ſplendid for a mortified Chriſtian; upon which account players fell under church-cenſure, and were even held unworthy of Chriſtian burial. A hiſtory-painter, on the contrary, being frequently employed in painting for the

church, was always in high eſteem. It is only among Proteſtants that players are beginning to be reſtored to their privileges as free citizens; and there perhaps never exiſted a hiſtory-painter more juſtly eſteemed, than Garrick, a player, is in Great Britain. Ariſtarchus, having taught that the earth moves round the ſun, was accuſed by the Heathen prieſts, for troubling the repoſe of their houſehold-gods. Copernicus, for the ſame doctrine, was accuſed by Chriſtian prieſts, as contradicting the ſcriptures, which talk of the ſun's moving. And Galileo, for adhering to Copernicus, was condemned to priſon and penance: he found it neceſſary to recant upon his knees. A bias acquired from Ariſtotle, kept reaſon in chains for centuries. Scholaſtic divinity in particular, founded on the philoſophy of that author, was more hurtful to the reaſoning faculty than the Goths and Huns. Tycho Brahé ſuffered great perſecution for maintaining, that the heavens were ſo far empty of matter as to give free courſe to the comets; contrary to Ariſtotle, who taught, that the heavens are harder than a diamond: it was extremely ill taken, that a ſimple mortal ſhould pretend to give Ariſtotle the lie. During the infancy of reaſon, authority is the prevailing argument [21].

[21] Ariſtotle, it would appear, was leſs regarded by his cotemporaries than by the moderns. Some perſons having travelled from Macedon all the way to Perſia, with complaints againſt Antipater; Alexander obſerved, that they would not have made ſo long a journey had they received no injury. And Caſſander, ſon of Antipater, replying, that their long journey was an argument againſt them,

Reaſon is eaſily warped by habit. In the diſputes among the Athenians about adjuſting the form of their government, thoſe who lived in the high country were for democracy; the inhabitants of the plains were for oligarchy; and the ſeamen for monarchy. Shepherds are all equal: in a corn-country, there are a few maſters and many ſervants; on ſhipboard, there is one commander, and all the reſt ſubjects. Habit was their adviſer: none of them thought of conſulting reaſon, in order to judge what was the beſt form upon the whole. Habit of a different kind has an influence no leſs powerful. Perſons who are in the habit of reaſoning, require demonſtration for every thing: even a ſelf-evident propoſition is not ſuffered to eſcape. Such demonſtrations occur more than once in the Elements of Euclid, nor has Ariſtotle, with all his ſkill in logic, entirely avoided them. Can any thing be more ſelf-evident, than the difference between pleaſure and motion? Yet Ariſtotle attempts to demonſtrate, that they are different. "No motion," ſays he, "except circular motion, is perfect in any "one point of time; there is always ſomething "wanting during its courſe, and it is not perfected "till it arrive at its end. But pleaſure is perfect "in every point of time; being the ſame from the "beginning to the end." The difference is clear from perception: but inſtead of being clear from this demonſtration, it ſhould rather follow

truſting that witneſſes would not be brought from ſuch a diſtance to give evidence of their calumny; Alexander, ſmiling, ſaid, "Your argument is one of Ariſtotle's ſophiſms, "which will ſerve either ſide equally."

from it, that pleaſure is the ſame with motion in a circle. Plato alſo attempts to demonſtrate a ſelf-evident propoſition, that a quality is not a body. "Every body," ſays he, "is a ſubject: "quality is not a ſubject, but an accident; *ergo*, "quality is not a body. Again, A body cannot "be in a ſubject: every quality is in a ſubject; "*ergo*, quality is not a body." But Deſcartes affords the moſt illuſtrious inſtance of the kind. He was the greateſt geometer of the age he lived in, and one of the greateſt of any age; which inſenſibly led him to overlook intuitive knowledge, and to admit no propoſition but what is demonſtrated or proved in the regular form of ſyllogiſm. He took a fancy to doubt even of his own exiſtence, till he was convinced of it by the following argument. *Cogito, ergo ſum: I think, therefore I exiſt.* And what ſort of a demonſtration is this after all? In the very fundamental propoſition he acknowledges his exiſtence by the term *I;* and how abſurd is it, to imagine a proof neceſſary of what is admitted in the fundamental propoſition? In the next place, How does our author know that he thinks? If nothing is to be taken for granted, an argument is no leſs neceſſary to prove that he thinks, than to prove that he exiſts. It is true, that he has intuitive knowledge of his thinking; but has he not the ſame of his exiſting? Would not a man deſerve to be laughed at, who, after warming himſelf at a fire, ſhould imagine the following argument neceſſary to prove its exiſtence, "The "fire burns, *ergo* it exiſts?" Liſten to an author

of high reputation attempting to demonstrate a self-evident proposition, "The *labor* of B cannot be "the labor of C; because it is the application of "the organs and powers of B, not of C, to the "effecting of something: and therefore the labor "is as much B's, as the *limbs* and *faculties* made "use of are his. Again, the *effect* or *produce* of "the labor of B, is not the effect of the labor of "C: and therefore this effect or produce is B's, "not C's; as much B's, as the *labor* was B's, and "not C's; Because, what the labor of B causes "or produces, B produces by his labor; or it is "the product of B by his labor: that is, it is B's "product, not C's or any other's. And if C should "pretend to any *property* in that which B can truly "call *his*, he would act contrary to truth [20]."

In every subject of reasoning, to define terms is necessary in order to avoid mistakes; and the only possible way of defining a term, is to express its meaning in more simple terms. Terms expressing ideas that are simple without parts, admit not of being defined, because there are no terms more simple to express their meaning. To say that every term is capable of a definition, is in effect to say, that terms resemble matter; that as the latter is divisible without end, so the former is reducible into simpler terms without end. The habit however of defining is so inveterate in some men, that they will attempt to define words signifying simple ideas. Is there any necessity to define motion: do not children understand the meaning of the word? And

[20] Religion of Nature delineated, Sect. 6. parag. 2.

ow is it poſſible to define it, when there are not ords more ſimple to define it by? Yet Worſter[1] tempts that bold taſk. "A continual change of place," ſays he, "or leaving one place for another, without remaining for any ſpace of time in the ſame place, is called *motion.*" That every body motion is continually changing place, is true: t change of place is not motion; it is the effect motion. Graveſend[2] defines motion thus, "Motus eſt tranſlatio de loco in locum, ſive continua loci mutatio[3];" which is the ſame with the rmer. Yet this very author admits *locus* or *place* ſignify a ſimple idea, incapable of a definition. it more ſimple or more intelligible than motion? t, of all, the moſt remarkable definition of otion is that of Ariſtotle, famous for its impenebility, or rather abſurdity, "Actus entis in potentia, quatenus in potentia[4]." His definition time is *numerus motus ſecundum prius ac poſterius.* his definition as well as that of motion, may ore properly be conſidered as riddles propounded r exerciſing invention. Not a few writers on gebra define negative quantities to be quantities ſs than nothing.

Extenſion enters into the conception of every rticle of matter; becauſe every particle of matter

[1] Natural Philoſophy, p. 31.

[2] Elements of Phyſics, p. 28.

[3] "Motion is, the removing from one place to another, or a continual change of place."

[4] "The action of a being in power, ſo far as it is in power."

has length, breadth, and thickneſs. Figure in the ſame manner enters into the conception of every particle of matter; becauſe every particle of matter is bounded. By the power of abſtraction, figure may be conceived independent of the body that is figured; and extenſion may be conceived independent of the body that is extended. Theſe particulars are abundantly plain and obvious; and yet obſerve what a heap of jargon is employed by the followers of Leibnitz, in their fruitleſs endeavours to define extenſion. They begin with *ſimple exiſtences*, which they ſay are unextended, and without parts. According to that definition, ſimple exiſtences cannot belong to matter, becauſe the ſmalleſt particle of matter has both parts and extenſion. But to let that paſs, they endeavour to ſhow as follows, how the idea of extenſion ariſes from theſe ſimple exiſtences. "We may look upon ſimple exiſtences, "as having mutual relations with reſpect to their "internal ſtate: relations that form a certain order "in their manner of exiſtence. And this order or "arrangement of things, coexiſting and linked "together but ſo as we do not diſtinctly underſtand "how, cauſes in us a confuſed idea, from whence "ariſes the appearance of extenſion." A Peripatetic philoſopher being aſked, What ſort of things the ſenſible ſpecies of Ariſtotle are, anſwered, That they are neither entities nor nonentities, but ſomething intermediate between the two. The famous aſtronomer Iſmael Bulialdus lays down the following propoſition, and attempts a mathematical demonſtration of it, "That light is a mean-proportional „between corporeal ſubſtance and incorporeal."

I close with a curious sort of reasoning, so singular indeed as not to come under any of the foregoing heads. The first editions of the latest version of the Bible into English, have the following preface. "Another thing we think good to admonish thee "of, gentle reader, that we have not tied ourselves "to an uniformity of phrasing, or to an identity "of words, as some peradventure would wish "that we had done, because they observe, that "some learned men somewhere have been as exact "as they could be that way. Truly, that we "might not vary from the sense of that which we "have translated before, if the word signified the "same in both places, (for there be some words "that be not of the same sense every where), we "were especially careful, and made a conscience "according to our duty. But that we should "express the same notion in the same particular "word; as, for example, if we translate the "Hebrew or Greek word once by *purpose*, never "to call it *intent*; if one where *journeying*, never "*travelling*; if one where *think*, never *suppose*; if "one where *pain*, never *ache*; if one where *joy*, "never *gladness*, &c.; thus to mince the matter, "we thought to favour more of curiosity than "wisdom, and that rather it would breed scorn in "the Atheist, than bring profit to the godly reader. "For is the kingdom of God become words or "syllables? Why should we be in bondage to "them, if we may be free; use one precisely, "when we may use another, no less fit, as com-"modiously? We might also be charged by scoffers,

"with ſome unequal dealing toward a great number "of good Engliſh words. For as it is written by "a certain great philoſopher, that he ſhould ſay, "that thoſe logs were happy that were made "images to be worſhipped; for their fellows, as "good as they, lay for blocks behind the fire: "ſo if we ſhould ſay, as it were, unto certain "words, Stand up higher, have a place in the "Bible always; and to others of like quality, Get "ye hence, be baniſhed for ever, we might be "taxed peradventure with St James his words, "namely, to be partial in ourſelves, and judges "of evil thoughts." *Quæritur*, Can this tranſlation be ſafely relied on as the rule of faith, when ſuch are the tranſlators?

## APPENDIX.

IN reviewing the foregoing ſketch, it occurred, that a fair analyſis of Ariſtotle's logic, would be a valuable addition to the hiſtorical branch. A diſtinct and candid account of a ſyſtem that for many ages governed the reaſoning part of mankind, cannot but be acceptable to the public. Curioſity will be gratified, in ſeeing a phantom delineated that ſo long faſcinated the learned world; a phantom, which ſhows infinite genius, but like the pyramids of Egypt or hanging gardens of Babylon, is abſolutely uſeleſs unleſs for raiſing wonder. Dr Reid, profeſſor of moral philoſophy in the college of Glaſgow, reliſhed the thought; and his friendſhip to me prevailed on him, after much ſolicitation, to under-

take the laborious task. No man is better acquainted with Aristotle's writings; and, without any enthusiastic attachment, he holds that philosopher to be a first-rate genius.

The logic of Aristotle has been on the decline more than a century; and is at present relegated to schools and colleges. It has occasionally been criticized by different writers; but this is the first attempt to draw it out of its obscurity into daylight. From what follows, one will be enabled to pass a true judgment on that work, and to determine whether it ought to make a branch of education. The Doctor's essay, as a capital article in the progress and history of the sciences, will be made welcome, even with the fatigue of squeezing through many thorny paths, before a distinct view can be got of that ancient and stupendous fabric.

It will at the same time show the hurt that Aristotle has done to the reasoning faculty, by drawing it out of its natural course into devious paths. His artificial mode of reasoning, is no less superficial than intricate: I say, superficial; for in none of his logical works, is a single truth attempted to be proved by syllogism that requires a proof: the propositions he undertakes to prove by syllogism, are all of them self-evident. Take for instance the following proposition, That man has a power of self-motion. To prove this, he assumes the following axiom, upon which indeed every one of his syllogisms are founded, That whatever is true of a number of particulars joined together, holds true of every one separately; which is thus expres-

ſed in logical terms, Whatever is true of the genus, holds true of every ſpecies. Founding upon that axiom, he reaſons thus. "All animals have a "power of ſelf-motion: man is an animal: *ergo*, "man has a power of ſelf-motion." Now if all animals have a power of ſelf-motion, it requires no argument to prove, that man, an animal, has that power: and therefore, what he gives as a concluſion or conſequence, is not really ſo; it is not *inferred* from the fundamental propoſition, but is *included* in it. At the ſame time, the ſelf-motive power of man, is a fact that cannot be known but from experience; and it is more clearly known from experience than that of any other animal. Now, in attempting to prove man to be a ſelf-motive animal, is it not abſurd, to found the argument on a propoſition leſs clear than that undertaken to be demonſtrated? What is here obſerved, will be found applicable to the greater part, if not the whole, of his ſyllogiſms.

Unleſs for the reaſon now given, it would appear ſingular, that Ariſtotle never attempts to apply his ſyllogiſtic mode of reaſoning to any ſubject handled by himſelf: on ethics, on rhetoric, and on poetry, he argues like a rational being; without once putting in practice any of his own rules. It is not ſuppoſable that a man of his capacity could be ignorant, how inſufficient a ſyllogiſm is for diſcovering any latent truth. He certainly intended his ſyſtem of logic, chiefly if not ſolely for diſputation: and if ſuch was his purpoſe, he has been wonderfully ſucceſsful; for nothing can be better contrived

or wrangling and disputing without end. He indeed in a manner professes this to be his aim, in his books *De Sophisticis elenchis.*

Some ages hence, when the goodly fabric of the Romish spiritual power shall be laid low in the dust, and scarce a vestige remain; it will among antiquaries be a curious inquiry, What was the nature and extent of a tyranny, more oppressive to the minds of men, than the tyranny of ancient Rome was to their persons. During every step of the inquiry, posterity will rejoice over mental liberty, no less precious than personal liberty. The despotism of Aristotle with respect to the faculty of reason, was no less complete, than that of the Bishop of Rome with respect to religion; and it is now a proper subject of curiosity, to inquire into the nature and extent of that despotism. One cannot peruse the following sheets, without sympathetic pain for the weakness of man with respect to his noblest faculty; but that pain will redouble his satisfaction, in now being left free to the dictates of reason and common sense.

In my reveries, I have more than once compared Aristotle's logic to a bubble made of soap-water for amusing children; a beautiful figure with splendid colors; fair on the outside, empty within. It has for more than two thousand years been the hard fate of Aristotle's followers, Ixion like, to embrace a cloud for a goddess. — But this is more than sufficient for a preface: and I had almost forgot, that I am detaining my readers from better entertainment, in listening to Dr Reid.

# A Brief Account of Aristotle's Logic, With Remarks.

## CHAP. I.

### Of the First Three Treatises.

#### Sect. 1. *Of the Author.*

Aristotle had very uncommon advantages: born in an age when the philosophical spirit in Greece had long flourished, and was in its greatest vigor; brought up in the court of Macedon, where his father was the King's physician; twenty years a favorite scholar of Plato, and tutor to Alexander the Great; who both honored him with his friendship, and supplied him with every thing necessary for the prosecution of his inquiries.

These advantages he improved by indefatigable study, and immense reading. He was the first, we know, says Strabo, who composed a library. And in this the Egyptian and Pergamenian kings, copied his example. As to his genius, it would be disrespectful to mankind, not to allow an uncommon share to a man who governed the opinions of

of the moſt enlightened part of the ſpecies near two thouſand years.

If his talents had been laid out ſolely for the diſcovery of truth and the good of mankind, his laurels would have remained for ever freſh: but he ſeems to have had a greater paſſion for fame than for truth, and to have wanted rather to be admired as the prince of philoſophers than to be uſeful: ſo that it is dubious, whether there be in his character, moſt of the philoſopher or of the ſophiſt. The opinion of Lord Bacon is not without probability, That his ambition was as boundleſs as that of his royal pupil; the one aſpiring at univerſal monarchy over the bodies and fortunes of men, the other over their opinions. If this was the caſe, it cannot be ſaid, that the philoſopher purſued his aim with leſs induſtry, leſs ability, or leſs ſucceſs than the hero.

His writings carry too evident marks of that philoſophical pride, vanity, and envy, which have often ſullied the character of the learned. He determines boldly things above all human knowledge; and enters upon the moſt difficult queſtions, as his pupil entered on a battle, with full aſſurance of ſucceſs. He delivers his deciſions oracularly, and without any fear of miſtake. Rather than confeſs his ignorance, he hides it under hard words and ambiguous expreſſions, of which his interpreters can make what they pleaſe. There is even reaſon to ſuſpect, that he wrote often with affected obſcurity, either that the air of myſtery might procure greater veneration, or that his books might

be underſtood only by the adepts who had been initiated in his philoſophy.

His conduct towards the writers that went before him has been much cenſured. After the manner of the Ottoman princes, ſays Lord Verulam, he thought his throne could not be ſecure unleſs he killed all his brethren. Ludovicus Vives charges him with detracting from all philoſophers, that he might derive that glory to himſelf, of which he robbed them. He rarely quotes an author but with a view to cenſure, and is not very fair in repreſenting the opinions which he cenſures.

The faults we have mentioned are ſuch as might be expected in a man, who had the daring ambition to be tranſmitted to all future ages, as the prince of philoſophers, as one who had carried every branch of human knowledge to its utmoſt limit; and who was not very ſcrupulous about the means he took to obtain his end.

We ought, however, to do him the juſtice to obſerve, that although the pride and vanity of the ſophiſt appear too much in his writings in abſtract philoſophy; yet in natural hiſtory the fidelity of his narrations ſeems to be equal to his induſtry; and he always diſtinguiſhes between what he knew and what he had by report. And even in abſtract philoſophy, it would be unfair to impute to Ariſtotle all the faults, all the obſcurities, and all the contradictions, that are to be found in his writings. The greateſt part, and perhaps the beſt part, of his writings is loſt. There is reaſon to doubt whether ſome of thoſe we aſcribe to him be really

his; and whether what are his be not much vitiated and interpolated. Theſe ſuſpicions are juſtified by the fate of Ariſtotle's writings, which is judiciouſly related, from the beſt authorities, in Bayle's dictionary, under the article *Tyrannion*, to which I refer.

His books in logic which remain, are, 1. One book of the Categories. 2. One of Interpretation. 3. Firſt Analitics, two books. 4. Laſt Analitics, two books. 5. Topics, eight books. 6. Of Sophiſms, one book. Diogenes Laertius mentions many others that are loſt. Thoſe I have mentioned have commonly been publiſhed together, under the name of *Ariſtotle's Organon*, or *his Logic*; and for many ages, Porphyry's Introduction to the Categories has been prefixed to them.

## Sect. 2. *Of Porphyry's Introduction.*

In this Introduction, which is addreſſed to Chryſoarius, the author obſerves, That in order to underſtand Ariſtotle's doctrine concerning the categories, it is neceſſary to know what a *genus* is, what a *ſpecies*, what a *ſpecific difference*, what a *property*, and what an *accident*; that the knowledge of theſe is alſo very uſeful in definition, in diviſion, and even in demonſtration: therefore he propoſes, in this little tract, to deliver ſhortly and ſimply the doctrine of the ancients, and chiefly of the Peripatetics, concerning theſe five *predicables*; avoiding the more intricate queſtions concerning them; ſuch as, Whether *genera* and *ſpecies* do really exiſt in nature?

or, Whether they are only conceptions of the human mind? If they exist in nature, Whether they are corporeal or incorporeal? and, Whether they are inherent in the objects of sense, or disjoined from them? These, he says, are very difficult questions, and require accurate discussion; but that he is not to meddle with them.

After this preface, he explains very minutely each of the five words above mentioned, divides and subdivides each of them, and then pursues all the agreements and differences between one and another through sixteen chapters.

## Sect. 3. *Of the Categories.*

The book begins with an explication of what is meant by univocal words, what by equivocal, and what by denominative. Then it is observed, that what we say is either simple, without composition or structure, as *man*, *horse*; or, it has composition and structure, as, *a man fights*, *the horse runs*. Next comes a distinction between a subject of predication; that is, a subject of which any thing is affirmed or denied, and a subject of inhesion. These things are said to be inherent in a subject, which although they are not a part of the subject, cannot possibly exist without it, a figure in the thing figured. Of things that are, says Aristotle, some may be predicated of a subject, but are in no subject; as *man* may be predicated of James or John, but is not in any subject. Some again are in a subject, but can be predicated of no subject. Thus,

my knowledge in grammar is in me as its ſubject, but it can be predicated of no ſubject; becauſe it is an individual thing. Some are both in a ſubject, and may be predicated of a ſubject, as ſcience, which is in the mind as its ſubject, and may be predicated of geometry. Laſtly, Some things can neither be in a ſubject, nor be predicated of any ſubject. Such are all individual ſubſtances, which cannot be predicated, becauſe they are individuals; and cannot be in a ſubject, becauſe they are ſubſtances. After ſome other ſubtilties about predicates and ſubjects, we come to the categories themſelves; the things above mentioned being called by the ſchoolmen the *anteprædicamenta*. It may be obſerved, however, that notwithſtanding the diſtinction now explained, the *being in a ſubject*, and the *being predicated truly of a ſubject*, are in the Analytics uſed as ſynonymous phraſes; and this variation of ſtyle has led ſome perſons to think that the Categories were not written by Ariſtotle.

Things that may be expreſſed without compoſition or ſtructure, are, ſays the author, reducible to the following heads. They are either *ſubſtance*, or *quantity*, or *quality*, or *relatives*, or *place*, or *time*, or *having*, or *doing*, or *ſuffering*. Theſe are the predicaments or categories. The firſt four are largely treated of in four chapters; the others are ſlightly paſſed over, as ſufficiently clear of themſelves. As a ſpecimen, I ſhall give a ſummary of what he ſays on the category of ſubſtance.

Subſtances are either primary, to wit, individual ſubſtances, or ſecondary, to wit, the genera and

ſpecies of ſubſtances. Primary ſubſtances neither are in a ſubject, nor can be predicated of a ſubject; but all other things that exiſt, either are in primary ſubſtances, or may be predicated of them. For whatever can be predicated of that which is in a ſubject, may alſo be predicated of the ſubject itſelf. Primary ſubſtances are more ſubſtances than the ſecondary; and of the ſecondary, the ſpecies is more a ſubſtance than the genus. If there were no primary, there could be no ſecondary ſubſtances.

The properties of ſubſtance are theſe: 1. No ſubſtance is capable of intenſion or remiſſion. 2. No ſubſtance can be in any other thing as its ſubject of inheſion. 3. No ſubſtance has a contrary; for one ſubſtance cannot be contrary to another; nor can there be contrariety between a ſubſtance and that which is no ſubſtance. 4. The moſt remarkable property of ſubſtance, is, that one and the ſame ſubſtance may, by ſome change in itſelf, become the ſubject of things that are contrary. Thus, the ſame body may be at one time hot, at another cold.

Let this ſerve as a ſpecimen of Ariſtotle's manner of treating the categories. After them, we have ſome chapters, which the ſchoolmen call *poſtpredicamenta*; wherein firſt, the four kinds of oppoſition of terms are explained; to wit, *relative*, *privative*, of *contrariety*, and of *contradiction*. This is repeated in all ſyſtems of logic. Laſt of all we have diſtinctions of the four Greek words which anſwer to the Latin ones, *prius*, *ſimul*, *motus*, and *habere*.

## Sect. 4. *Of the book concerning Interpretation.*

We are to conſider, ſays Ariſtotle, what a noun is, what a verb, what affirmation, what negation, what ſpeech. Words are the ſigns of what paſſeth in the mind; writing is the ſign of words. The ſigns both of writing and of words are different in different nations, but the operations of mind ſignified by them are the ſame. There are ſome operations of thought which are neither true nor falſe. Theſe are expreſſed by nouns or verbs ſingly, and without compoſition.

A noun is a ſound which by compact ſignifies ſomething without reſpect to time, and of which no part has ſignification by itſelf. The cries of beaſts may have a natural ſignification, but they are not nouns: we give that name only to ſounds which have their ſignification by compact. The caſes of a noun, as the genitive, dative, are not nouns. *Non homo* is not a noun, but, for diſtinction's ſake, may be called a *nomen infinitum.*

A verb ſignifies ſomething by compact with relation to time. Thus *valet* is a verb; but *valetudo* is a noun, becauſe its ſignification has no relation to time. It is only the preſent tenſe of the indicative that is properly called a verb; the other tenſes and moods are variations of the verb. *Non valet* may be called a *verbum infinitum.*

Speech is ſound ſignificant by compact, of which ſome part is alſo ſignificant. And it is either enunciative, or not enunciative. Enunciative ſpeech is that which affirms or denies. As to ſpeech which

is not enunciative, such as a prayer or wish, the consideration of it belongs to oratory, or poetry. Every enunciative speech must have a verb, or some variation of a verb. Affirmation is the enunciation of one thing concerning another. Negation is the enunciation of one thing from another. Contradiction is an affirmation and negation that are opposite. This is a summary of the first six chapters.

The seventh and eighth treat of the various kinds of enunciations or propositions, universal, particular, indefinite, and singular; and of the various kinds of opposition in propositions, and the axioms concerning them. These things are repeated in every system of logic. In the ninth chapter he endeavours to prove by a long metaphysical reasoning, that propositions respecting future contingencies are not, determinately, either true or false; and that if they were, it would follow, that all things happen necessarily, and could not have been otherwise than as they are. The remaining chapters contain many minute observations concerning the equipolence of propositions both pure and modal.

## CHAP. II.

### Remarks.

#### SECT. I. *On the Five Predicables.*

THE writers on logic have borrowed their materials almost entirely from Aristotle's Organon,

and Porphyry's Introduction. The Organon however was not written by Ariſtotle as one work. It comprehends various tracts, written without the view of making them parts of one whole, and afterwards thrown together by his editors under one name on account of their affinity. Many of his books that are loſt, would have made a part of the Organon if they had been ſaved.

The three treatiſes of which we have given a brief account, are unconnected with each other, and with thoſe that follow. And although the firſt was undoubtedly compiled by Porphyry, and the two laſt probably by Ariſtotle, yet I conſider them as the venerable remains of a philoſophy more ancient than Ariſtotle. Archytas of Tarentum, an eminent mathematician and philoſopher of the Pythagorean ſchool, is ſaid to have wrote upon the ten categories; and the five predicables probably had their origin in the ſame ſchool. Ariſtotle, though abundantly careful to do juſtice to himſelf, does not claim the invention of either. And Porphyry, without aſcribing the latter to Ariſtotle, profeſſes only to deliver the doctrine of the ancients and chiefly of the Peripatetics, concerning them.

The writers on logic have divided that ſcience into three parts; the firſt treating of ſimple apprehenſion and of terms; the ſecond, of judgment and of propoſitions; and the third, of reaſoning and of ſyllogiſms. The materials of the firſt part are taken from Porphyry's Introduction and the Categories; and thoſe of the ſecond from the book of Interpretation.

A predicable, according to the grammatical form of the word, might ſeem to ſignify, whatever may be predicated, that is, affirmed or denied, of a ſubject: and in that ſenſe every predicate would be a predicable. But logicians give a different meaning to the word. They divide propoſitions into certain claſſes, according to the relation which the predicate of the propoſition bears to the ſubject. The firſt claſs is that wherein the predicate is the *genus* of the ſubject; as when we ſay, *This is a triangle*, *Jupiter is a planet*. In the ſecond claſs, the predicate is a *ſpecies* of the ſubject; as when we ſay, *This triangle is right-angled*. A third claſs is when the predicate is the ſpecific difference of the ſubject; as when we ſay, *Every triangle has three ſides and three angles*. A fourth when the predicate is a property of the ſubject; as when we ſay, *The angles of every triangle are equal to two right angles*. And a fifth claſs is when the predicate is ſomething accidental to the ſubject; as when we ſay, *This triangle is neatly drawn*.

Each of theſe claſſes comprehends a great variety of propoſitions, having different ſubjects, and different predicates; but in each claſs the relation between the predicate and the ſubject is the ſame. Now it is to this relation that logicians have given the name of *a predicable*. Hence it is, that although the number of predicates be infinite, yet the number of predicables can be no greater than that of the different relations which may be in propoſitions between the predicate and the ſubject. And if all propoſitions belong to one or other of the five

claſſes above mentioned, there can be but five predicables, to wit, *genus*, *ſpecies*, *differentia*, *proprium*, and *accidens*. Theſe might with more propriety perhaps, have been called *the five claſſes of predicates*; but uſe has determined them to be called *the five predicables*.

It may alſo be obſerved, that as ſome objects of thought are individuals, ſuch as, *Julius Cæſar*, *the city Rome*; ſo others are common to many individuals, as *good*, *great*, *virtuous*, *vicious*. Of this laſt kind are all the things that are expreſſed by adjectives. Things common to many individuals, were by the ancients called *univerſals*. All predicates are univerſals, for they have the nature of adjectives; and, on the other hand, all univerſals may be predicates. On this account, univerſals may be divided into the ſame claſſes as predicates; and as the five claſſes of predicates above mentioned have been called the five predicables, ſo by the ſame kind of phraſeology they have been called *the five univerſals*; although they may more properly be called *the five claſſes of univerſals*.

The doctrine of the five univerſals or predicables makes an eſſential part of every ſyſtem of logic, and has been handed down without any change to this day. The very name of *predicables* ſhows, that the author of this diviſion, whoever he was, intended it as a complete enumeration of all the kinds of things that can be affirmed of any ſubject; and ſo it has always been underſtood. It is accordingly implied in this diviſion, that all that can be affirmed of any thing whatever, is either the

*genus* of the thing, or its *ſpecies*, or its *ſpecific difference*, or ſome *property* or *accident* belonging to it.

Burgerſdick, a very acute writer in logic, ſeems to have been aware, that ſtrong objections might be made to the five predicables, conſidered as a complete enumeration: but, unwilling to allow any imperfection in this ancient diviſion, he endeavours to reſtrain the meaning of the word *predicable*, ſo as to obviate objections. Thoſe things only, ſays he, are to be accounted predicables, which may be affirmed of *many individuals*, *truly*, *properly*, and *immediately*. The conſequence of putting ſuch limitations upon the word *predicable* is, that in many propoſitions, perhaps in moſt, the predicate is not a predicable. But admitting all his limitations, the enumeration will ſtill be very incomplete; for of many things we may affirm truly, properly, and immediately, their exiſtence, their end, their cauſe, their effect, and various relations which they bear to other things. Theſe, and perhaps many more, are predicables in the ſtrict ſenſe of the word, no leſs than the five which have been ſo long famous.

Although Porphyry and all ſubſequent writers, make the predicables to be, in number, five; yet Ariſtotle himſelf, in the beginning of the Topics, reduces them to four, and demonſtrates, that there can be no more. We ſhall give his demonſtration when we come to the Topics; and ſhall only here obſerve, that as Burgerſdick juſtifies the fiveſold diviſion, by reſtraining the meaning of the word

*predicable*; ſo Ariſtotle juſtifies the fourfold diviſion, by enlarging the meaning of the words *property* and *accident*.

After all, I apprehend, that this ancient diviſion of predicables with all its imperfections, will bear a compariſon with thoſe which have been ſubſtituted in its ſtead by the moſt celebrated modern philoſophers.

Locke, in his Eſſay on the Human Underſtanding, having laid it down as a principle, That all our knowledge conſiſts in perceiving certain agreements and diſagreements between our ideas, reduces theſe agreements and diſagreements to four heads: to wit, 1. Identity and diverſity; 2. Relation; 3. Coexiſtence; 4. Real Exiſtence [1]. Here are four predicables given as a complete enumeration, and yet not one of the ancient predicables is included in the number.

The author of the Treatiſe of Human Nature, proceeding upon the ſame principle that all our knowledge is only a perception of the relations of our ideas, obſerves, "That it may perhaps be "eſteemed an endleſs taſk, to enumerate all thoſe "qualities which admit of compariſon, and by "which the ideas of philoſophical relation are "produced: but if we diligently conſider them, "we ſhall find, that without difficulty they may "be compriſed under ſeven general heads: 1. Re- "ſemblance; 2. Identity; 3. Relations of Space and "Time; 4. Relations of Quantity and number;

[1] Book 4. chap. 1.

" 5. Degrees of Quality; 6. Contrariety; 7. Cauſa-
" tion [2]." Here again are ſeven predicables given as a complete enumeration, wherein all the predicables of the ancients, as well as two of Locke's are left out.

The ancients in their diviſion attended only to categorical propoſitions which have one ſubject and one predicate; and of theſe to ſuch only as have a general term for their ſubject. The moderns, by their definition of knowledge, have been led to attend only to relative propoſitions, which expreſs a relation between two ſubjects, and theſe ſubjects they ſuppoſe to be always ideas.

SECT. 2. *On the Ten Categories, and on Diviſions in general.*

The intention of the categories or predicaments is, to muſter every object of human apprehenſion under ten heads: for the categories are given as a complete enumeration of every thing which can be expreſſed without *compoſition* and *ſtructure*; that is, of every thing that can be either the ſubject or the predicate of a propoſition. So that as every ſoldier belongs to ſome company, and every company to ſome regiment; in like manner every thing that can be the object of human thought, has its place in one or other of the ten categories; and by dividing and ſubdividing properly the ſeveral categories, all the notions that enter into the human

[2] Vol. I. p. 33. and 125.

mind may be muſtered in rank and file, like an army in the day of battle.

The perfection of the diviſion of categories into ten heads, has been ſtrenuouſly defended by the followers of Ariſtotle, as well as that of the five predicables. They are indeed of kin to each other: they breathe the ſame ſpirit, and probably had the ſame origin. By the one we are taught to marſhal every term that can enter into a propoſition, either as ſubject or predicate; and by the other, we are taught all the poſſible relations which the ſubject can have to the predicate. Thus, the whole furniture of the human mind is preſented to us at one view, and contracted, as it were, into a nut-ſhell. To attempt, in ſo early a period, a methodical delineation of the vaſt region of human knowledge, actual and poſſible, and to point out the limits of every diſtrict, was indeed magnanimous in a high degree, and deſerves our admiration, while we lament that the human powers are unequal to ſo bold a flight.

A regular diſtribution of things under proper claſſes or heads, is, without doubt, a great help both to memory and judgment. As the philoſopher's province includes all things human and divine that can be objects of inquiry, he is naturally led to attempt ſome general diviſion, like that of the categories. And the invention of a diviſion of this kind, which the ſpeculative part of mankind acquieſced in for two thouſand years, marks a ſuperiority of genius in the inventor, whoever he was. Nor does it appear, that the general diviſions

which, ſince the decline of the Peripatetic philoſophy, have been ſubſtituted in place of the ten categories, are more perfect.

Locke has reduced all things to three categories; to wit, ſubſtances, modes, and relations. In this diviſion, time, ſpace, and number, three great objects of human thought, are omitted.

The author of the Treatiſe of Human Nature has reduced all things to two categories; to wit, ideas, and impreſſions: a diviſion which is very well adapted to his ſyſtem; and which puts me in mind of another made by an excellent mathematician in a printed theſis I have ſeen. In it the author, after a ſevere cenſure of the ten categories of the Peripatetics, maintains, that there neither are nor can be more than two categories of things; to wit, *data* and *quæſita*.

There are two ends that may be propoſed by ſuch diviſions. The firſt is, to methodize or digeſt in order what a man actually knows. This is neither unimportant nor impracticable; and in proportion to the ſolidity and accuracy of a man's judgment, his diviſions of the things he knows, will be elegant and uſeful. The ſame ſubject may admit, and even require, various diviſions, according to the different points of view from which we contemplate it: nor does it follow, that becauſe one diviſion is good, therefore another is naught. To be acquainted with the diviſions of the logicians and metaphyſicians, without a ſuperſtitious attachment to them, may be of uſe in dividing the ſame ſubjects, or even thoſe of a different nature. Thus,

Quintilian

Quintilian borrows from the ten categories his diviſion of the topics of rhetorical argumentation. Of all methods of arrangement, the moſt antiphiloſophical ſeems to be the invention of this age; I mean, the arranging the arts and ſciences by the letters of the alphabet, in dictionaries and encyclopedies. With theſe authors the categories are, A, B, C, &c.

Another end commonly propoſed by ſuch diviſions, but very rarely attained, is to exhauſt the ſubject divided; ſo that nothing that belongs to it ſhall be omitted. It is one of the general rules of diviſion in all ſyſtems of logic, That the diviſion ſhould be adequate to the ſubject divided: a good rule, without doubt; but very often beyond the reach of human power. To make a perfect diviſion, a man muſt have a perfect comprehenſion of the whole ſubject at one view. When our knowledge of the ſubject is imperfect, any diviſion we can make, muſt be like the firſt ſketch of a painter, to be extended, contracted, or mended, as the ſubject ſhall be found to require. Yet nothing is more common, not only among the ancient, but even among modern philoſophers, than to draw, from their incomplete diviſions, concluſions which ſuppoſe them to be perfect.

A diviſion is a repoſitory which the philoſopher frames for holding his ware in convenient order. The philoſopher maintains, that ſuch or ſuch a thing is not good ware, becauſe there is no place in his ware-room that fits it. We are apt to yield

to this argument in philoſophy, but it would appear ridiculous in any other traffic.

Peter Ramus, who had the ſpirit of a reformer in philoſophy, and who had force of genius ſufficient to ſhake the Ariſtotelian fabric in many parts, but inſufficient to erect any thing more ſolid in its place, tried to remedy the imperfection of philoſophical diviſions, by introducing a new manner of dividing. His diviſions always conſiſted of two members, one of which was contradictory of the other; as if one ſhould divide England into Middleſex and what is not Middleſex. It is evident that theſe two members comprehend all England: for the logicians obſerve, that a term along with its contradictory, comprehend all things. In the ſame manner, we may divide what is not Middleſex into Kent and what is not Kent. Thus one may go on by diviſions and ſubdiviſions that are abſolutely complete. This example may ſerve to give an idea of the ſpirit of Ramean diviſions, which were in no ſmall reputation about two hundred years ago.

Ariſtotle was not ignorant of this kind of diviſion. But he uſed it only as a touchſtone to prove by induction the perfection of ſome other diviſion, which indeed is the beſt uſe that can be made of it. When applied to the common purpoſe of diviſion, it is both inelegant, and burdenſome to the memory; and, after it has put one out of breath by endleſs ſubdiviſions, there is ſtill a negative term left behind, which ſhows that you are no nearer the end of your journey than when you began.

Until ſome more effectual remedy be found for the imperfection of diviſions, I beg leave to propoſe one more ſimple than that of Ramus. It is this: When you meet with a diviſion of any ſubject imperfectly comprehended, add to the laſt member an *& cætera*. That this *& cætera* makes the diviſion complete, is undeniable; and therefore it ought to hold its place as a member, and to be always underſtood, whether expreſſed or not, until clear and poſitive proof be brought that the diviſion is complete without it. And this ſame *& cætera* is to be the repoſitory of all members that ſhall in any future time ſhow a good and valid right to a place in the ſubject.

## SECT. 3. *On Diſtinctions.*

Having ſaid ſo much of logical diviſions, we ſhall next make ſome remarks upon diſtinctions.

Since the philoſophy of Ariſtotle fell into diſrepute, it has been a common topic of wit and raillery, to enveigh againſt metaphyſical diſtinctions. Indeed the abuſe of them in the ſcholaſtic ages, ſeems to juſtify a general prejudice againſt them: and ſhallow thinkers and writers have good reaſon to be jealous of diſtinctions, becauſe they make ſad work when applied to their flimſy compoſitions. But every man of true judgment, while he condemns diſtinctions that have no foundation in the nature of things, muſt perceive, that indiſcriminately to decry diſtinctions, is to renounce all pretenſions to juſt reaſoning: for as falſe reaſoning commonly proceeds

from confounding things that are different; ſo without diſtinguiſhing ſuch things, it is impoſſible to avoid error, or detect ſophiſtry. The authority of Aquinas, or Suarez, or even of Ariſtotle, can neither ſtamp a real value upon diſtinctions of baſe metal, nor hinder the currency of thoſe of true metal.

Some diſtinctions are verbal, others are real. The firſt kind diſtinguiſh the various meanings of a word; whether proper, or metaphorical. Diſtinctions of this kind make a part of the grammar of a language, and are often abſurd when tranſlated into another language. Real diſtinctions are equally good in all languages, and ſuffer no hurt by tranſlation. They diſtinguiſh the different ſpecies contained under ſome general notion, or the different parts contained in one whole.

Many of Ariſtotle's diſtinctions are verbal merely; and therefore, more proper materials for a dictionary of the Greek language, than for a philoſophical treatiſe. At leaſt, they ought never to have been tranſlated into other languages, when the idiom of the language will not juſtify them: for this is to adulterate the language, to introduce foreign idioms into it without neceſſity or uſe, and to make it ambiguous where it was not. The diſtinctions in the end of the Categories of the four words, *prius*, *ſimul*, *motus*, and *habere*, are all verbal.

The modes or ſpecies of *prius*, according to Ariſtotle, are five. One thing may be prior to another; firſt, in point of time; ſecondly, in point of dignity; thirdly, in point of order; and ſo forth.

The modes of *ſimul* are only three. It ſeems this word was not uſed in the Greek with ſo great latitude as the other, although they are relative terms.

The modes or ſpecies of *motion* he makes to be ſix, to wit, generation, corruption, increaſe, decreaſe, alteration, and change of place.

The modes or ſpecies of *having* are eight. 1. Having a quality or habit, as having wiſdom. 2. Having quantity or magnitude. 3. Having things adjacent, as having a ſword. 4. Having things as parts, as having hands or feet. 5. Having in a part or on a part, as having a ring on one's finger. 6. Containing, as a caſk is ſaid to have wine. 7. Poſſeſſing, as having lands or houſes. 8. Having a wife.

Another diſtinction of this kind is Ariſtotle's diſtinction of cauſes; of which he makes four kinds, efficient, material, formal, and final. Theſe diſtinctions may deſerve a place in a dictionary of the Greek language; but in Engliſh or Latin they adulterate the language. Yet ſo fond were the ſchoolmen of diſtinctions of this kind, that they added to Ariſtotle's enumeration, an impulſive cauſe, an exemplary cauſe, and I don't know how many more. We ſeem to have adopted into Engliſh a final cauſe; but it is merely a term of art, borrowed from the Peripatetic philoſophy, without neceſſity or uſe: for the Engliſh word *end* is as good as *final cauſe*, though not ſo long nor ſo learned.

## Sect. 4. *On Definitions.*

It remains that we make ſome remarks on Ariſtotle's definitions, which have expoſed him to much cenſure and ridicule. Yet I think it muſt be allowed, that in things which need definition and admit of it, his definitions are commonly judicious and accurate; and had he attempted to define ſuch things only, his enemies had wanted great matter of triumph. I believe it may likewiſe be ſaid in his favor, that until Locke's eſſay was wrote, there was nothing of importance delivered by philoſophers with regard to definition, beyond what Ariſtotle has ſaid upon that ſubject.

He conſiders a definition as a ſpeech declaring what a thing is. Every thing eſſential to the thing defined, and nothing more, muſt be contained in the definition. Now the eſſence of a thing conſiſts of theſe two parts; Firſt, What is common to it with other things of the ſame kind; and, ſecondly, What diſtinguiſhes it from other things of the ſame kind. The firſt is called the *genus* of the thing, the ſecond its *ſpecific difference*. The definition therefore conſiſts of theſe two parts. And for finding them, we muſt have recourſe to the ten categories; in one or other of which every thing in nature is to be found. Each category is a *genus*, and is divided into ſo many ſpecies, which are diſtinguiſhed by their ſpecific differences. Each of theſe ſpecies is again ſubdivided into ſo many ſpecies, with regard to which it is a genus. This diviſion and ſubdiviſion continues until we come to the

loweſt ſpecies, which can only be divided into individuals, diſtinguiſhed from one another, not by any ſpecific difference, but by accidental differences of time, place, and other circumſtances.

The category itſelf being the higheſt genus, is in no reſpect a ſpecies, and the loweſt *ſpecies* is in no reſpect a *genus;* but every intermediate order is a genus compared with thoſe that are below it, and a ſpecies compared with thoſe above it. To find the definition of any thing, therefore, you muſt take the genus which is immediately above its place in the category, and the ſpecific *difference*, by which it is diſtinguiſhed from other ſpecies of the ſame *genus*. Theſe two make a perfect definition. This I take to be the ſubſtance of Ariſtotle's ſyſtem; and probably the ſyſtem of the Pythagorean ſchool before Ariſtotle, concerning definition.

But notwithſtanding the ſpecious appearance of this ſyſtem, it has its defects. Not to repeat what was before ſaid of the imperfection of the diviſion of things into ten categories, the ſubdiviſions of each category are no leſs imperfect. Ariſtotle has given ſome ſubdiviſions of a few of them; and as far as he goes, his followers pretty unanimouſly take the ſame road. But when they attempt to go farther, they take very different roads. It is evident, that if the ſeries of each category could be completed, and the diviſion of things into categories could be made perfect, ſtill the higheſt genus in each category could not be defined, becauſe it is not a ſpecies; nor could individuals be defined, becauſe they have no ſpecific difference. There are

alſo many ſpecies of things, whoſe ſpecific difference cannot be expreſſed in language, even when it is evident to ſenſe, or to the underſtanding. Thus green, red, and blue, are very diſtinct ſpecies of color; but who can expreſs in words wherein green differs from red or blue?

Without borrowing light from the ancient ſyſtem, we may perceive, that every definition muſt conſiſt of words that need no definition; and that to define the common words of a language that have no ambiguity, is trifling, if it could be done; the only uſe of a definition being to give a clear and adequate conception of the meaning of a word.

The logicians indeed diſtinguiſh between the definition of a word, and the definition of a thing; conſidering the former as the mean office of a lexicographer, but the laſt as the grand work of a philoſopher. But what they have ſaid about the definition of a thing, if it have a meaning, is beyond my comprehenſion. All the rules of definition agree to the definition of a word: and if they mean by the definition of a thing, the giving an adequate conception of the nature and eſſence of any thing that exiſts; this is impoſſible, and is the vain boaſt of men unconſcious of the weakneſs of human underſtanding.

The works of God are but imperfectly known by us. We ſee their outſide; or perhaps we diſcover ſome of their qualities and relations, by obſervation and experiment aſſiſted by reaſoning: but even of the ſimpleſt of them we can give no definition that comprehends its real eſſence. It is juſtly obſerved

by Locke, that nominal eſſences only, which are the creatures of our own minds, are perfectly comprehended by us, or can be properly defined; and even of theſe there are many too ſimple in their nature to admit of definition. When we cannot give preciſion to our notions by a definition, we muſt endeavour to do it by attentive reflection upon them, by obſerving minutely their agreements and differences, and eſpecially by a right underſtanding of the powers of our own minds by which ſuch notions are formed.

The principles laid down by Locke with regard to definition and with regard to the abuſe of words, carry conviction along with them. I take them to be one of the moſt important improvements made in logic ſince the days of Ariſtotle: not ſo much becauſe they enlarge our knowledge, as becauſe they make us ſenſible of our ignorance; and ſhow that a great part of what ſpeculative men have admired as profound philoſophy, is only a darkening of knowledge by words without underſtanding.

If Ariſtotle had underſtood theſe principles, many of his definitions, which furniſh matter of triumph to his enemies, had never ſeen the light: let us impute them to the times rather than to the man. The ſublime Plato, it is ſaid, thought it neceſſary to have the definition of a man, and could find none better than *Animal implume bipes;* upon which Diogenes ſent to his ſchool a cock with his feathers plucked off, deſiring to know whether it was a man or not.

## Sect. 5. *On the Structure of Speech.*

The few hints contained in the beginning of the book concerning Interpretation relating to the ſtructure of ſpeech, have been left out in treatiſes of logic, as belonging rather to grammar; yet I apprehend this is a rich field of philoſophical ſpeculation. Language being the expreſs image of human thought, the analyſis of the one muſt correſpond to that of the other. Nouns adjective and ſubſtantive, verbs active and paſſive, with their various moods, tenſes, and perſons, muſt be expreſſive of a like variety in the modes of thought. Things that are diſtinguiſhed in all languages, ſuch as ſubſtance and quality, action and paſſion, cauſe and effect, muſt be diſtinguiſhed by the natural powers of the human mind. The philoſophy of grammar, and that of the human underſtanding, are more nearly allied than is commonly imagined.

The ſtructure of language was purſued to a conſiderable extent, by the ancient commentators upon this book of Ariſtotle. Their ſpeculations upon this ſubject, which are neither the leaſt ingenious nor the leaſt uſeful part of the Peripatetic philoſophy, were neglected for many ages, and lay buried in ancient manuſcripts, or in books little known, till they were lately brought to light by the learned Mr Harris in his Hermes.

The definitions given by Ariſtotle, of a noun, of a verb, and of ſpeech, will hardly bear examination. It is eaſy in practice to diſtinguiſh the various parts of ſpeech; but very difficult, if at all poſſible, to give accurate definitions of them.

He obſerves juſtly, that beſides that kind of ſpeech called a *propoſition*, which is always either true or falſe, there are other kinds which are neither true nor falſe; ſuch as, a prayer, or wiſh; to which we may add, a queſtion, a command, a promiſe, a contract, and many others. Theſe Ariſtotle pronounces to have nothing to do with his ſubject, and remits them to oratory, or poetry; and ſo they have remained baniſhed from the regions of philoſophy to this day: yet I apprehend, that an analyſis of ſuch ſpeeches, and of the operations of mind which they expreſs, would be of real uſe, and perhaps would diſcover how imperfect an enumeration the logicians have given of the powers of human underſtanding, when they reduce them to ſimple apprehenſion, judgment, and reaſoning.

## Sect. 6. *On Propoſitions.*

Mathematicians uſe the word *propoſition* in a larger ſenſe than logicians. A problem is called a *propoſition* in mathematics, but in logic it is not a propoſition: it is one of thoſe ſpeeches which are not enunciative, and which Ariſtotle remits to oratory or poetry.

A propoſition, according to Ariſtotle, is a ſpeech wherein one thing is affirmed or denied of another. Hence it is eaſy to diſtinguiſh the thing affirmed or denied, which is called *the predicate*, from the thing of which it is affirmed or denied, which is called *the ſubject*; and theſe two are called *the terms of the propoſition*. Hence likewiſe it appears, that propoſitions are either affirmative or negative; and this is called *their quality*. All affirmative propoſitions have the ſame quality, ſo likewiſe have all negative; but an affirmative and a negative are contrary in their quality.

When the ſubject of a propoſition is a general term, the predicate is affirmed or denied, either of the whole, or of a part. Hence propoſitions are diſtinguiſhed into univerſal and particular. *All men are mortal*, is an univerſal propoſition; *Some men are learned*, is a particular; and this is called *the quantity of the propoſition*. All univerſal propoſitions agree in quantity, as alſo all particular: but an univerſal and a particular are ſaid to differ in quantity. A propoſition is called *indefinite*, when there is no mark either of univerſality or particularity annexed to the ſubject: thus, *Man is of few days*, is an indefinite propoſition; but it muſt be underſtood either as univerſal or as particular, and therefore is not a third ſpecies, but by interpretation is brought under one of the other two.

There are alſo ſingular propoſitions, which have not a general term but an individual for their ſubject; as, *Alexander was a great conqueror*. Theſe are conſidered by logicians as univerſal, becauſe,

the ſubject being indiviſible, the predicate is affirmed or denied of the whole, and not of a part only. Thus all propoſitions, with regard to quality, are either affirmative or negative; and with regard to quantity, are univerſal or particular; and taking in both quantity and quality, they are univerſal affirmatives, or univerſal negatives, or particular affirmatives, or particular negatives. Theſe four kinds, after the days of Ariſtotle, came to be named by the names of the four firſt vowels, A, E, I, O, according to the following diſtich:

*Aſſerit A, negat E, ſed univerſaliter ambæ;*
*Aſſerit I, negat O, ſed particulariter ambo.*

When the young logician is thus far inſtructed in the nature of propoſitions, he is apt to think there is no difficulty in analyzing any propoſition, and ſhowing its ſubject and predicate, its quantity and quality; and indeed, unleſs he can do this, he will be unable to apply the rules of logic to uſe. Yet he will find, there are ſome difficulties in this analyſis, which are overlooked by Ariſtotle altogether; and although they are ſometimes touched, they are not removed by his followers. For, 1. There are propoſitions in which it is difficult to find a ſubject and a predicate; as in theſe, *It rains, It ſnows.* 2. In ſome propoſitions either term may be made the ſubject or the predicate as you like beſt; as in this, *Virtue is the road to happineſs.* 3. The ſame example may ſerve to ſhow, that it is ſometimes difficult to ſay, whether a propoſition

be univerſal or particular. 4. The quality of ſome propoſitions is ſo dubious, that logicians have never been able to agree whether they be affirmative or negative; as in this propoſition, *Whatever is inſentient is not an animal.* 5. As there is one claſs of propoſitions which have only two terms, to wit, one ſubject and one predicate, which are called *categorical propoſitions;* ſo there are many claſſes that have more than two terms. What Ariſtotle delivers in this book is applicable only to categorical propoſitions; and to them only the rules concerning the converſion of propoſitions, and concerning the figures and modes of ſyllogiſms, are accommodated. The ſubſequent writers of logic have taken notice of ſome of the many claſſes of complex propoſitions, and have given rules adapted to them; but finding this work endleſs, they have left us to manage the reſt by the rules of common ſenſe.

## CHAP. III.

### Account of the Firſt Analytics.

#### SECT. I. *Of the Converſion of Propoſitions.*

IN attempting to give ſome account of the Analytics and of the Topics of Ariſtotle, ingenuity requires me to confeſs, that though I have often purpoſed to read the whole with care, and to

underſtand what is intelligible, yet my courage and patience always failed before I had done. Why ſhould I throw away ſo much time and painful attention upon a thing of ſo little real uſe? If I had lived in thoſe ages when the knowledge of Ariſtotle's Organon entitled a man to the higheſt rank in philoſophy, ambition might have induced me to employ upon it ſome years of painful ſtudy; and leſs, I conceive, would not be ſufficient. Such reflections as theſe, always got the better of my reſolution, when the firſt ardor began to cool. All I can ſay is, that I have read ſome parts of the different books with care, ſome ſlightly, and ſome perhaps not at all. I have glanced over the whole often, and when any thing attracted my attention, have dipped into it till my appetite was ſatisfied. Of all reading it is the moſt dry and the moſt painful, employing an infinite labor of demonſtration, about things of the moſt abſtract nature, delivered in a laconic ſtyle, and often, I think, with affected obſcurity; and all to prove general propoſitions, which when applied to particular inſtances appear ſelf-evident.

There is probably but little in the Categories or in the book of Interpretation, that Ariſtotle could claim as his own invention: but the whole theory of ſyllogiſms he claims as his own, and as the fruit of much time and labor. And indeed it is a ſtately fabric, a monument of a great genius, which we could wiſh to have been more uſefully employed. There muſt be ſomething however adapted to pleaſe the human underſtanding, or to flatter

human pride, in a work which occupied men of ſpeculation for more than a thouſand years. Theſe books are called. *Analytics*, becauſe the intention of them is to reſolve all reaſoning into its ſimple ingredients.

The firſt book of the Firſt Analytics, conſiſting of forty-ſix chapters, may be divided into four parts; the firſt treating of the converſion of propoſitions; the ſecond, of the ſtructure of ſyllogiſms in all the different figures and modes; the third, of the invention of a middle term; and the laſt, of the reſolution of ſyllogiſms. We ſhall give a brief account of each.

To convert a propoſition, is to infer from it another propoſition, whoſe ſubject is the predicate of the firſt, and whoſe predicate is the ſubject of the firſt. This is reduced by Ariſtotle to three rules. 1. An univerſal negative may be converted into an univerſal negative: thus *No man is a quadruped*; therefore, *No quadruped is a man.* 2. An univerſal affirmative can be converted only into a particular affirmative: thus, *All men are mortal;* therefore, *Some mortal beings are men.* 3. A particular affirmative may be converted into a particular affirmative: as, *Some men are juſt*; therefore, *Some juſt perſons are men.* When a propoſition may be converted without changing its quantity, this is called *ſimple converſion*; but when the quantity is diminiſhed, as in the univerſal affirmative, it is called converſion *per accidens.*

There is another kind of converſion, omitted in this place by Ariſtotle, but ſupplied by his followers, called *converſion by contrapoſition*, in which the

the term that is contradictory to the predicate is put for the ſubject, and the quality of the propoſition is changed; as, *All animals are ſentient*; therefore, *What is inſentient is not an animal.* A fourth rule of converſion therefore is, That an univerſal affirmative, and a particular negative, may be converted by contrapoſition.

## Sect. 2. *Of the Figures and Modes of pure Syllogiſms.*

A ſyllogiſm is an argument, or reaſoning, conſiſting of three propoſitions, the laſt of which, called *the concluſion*, is inferred from the two preceding, which are called *the premiſes*. The concluſion having two terms, a ſubject and a predicate, its predicate is called the *major* term, and its ſubject the *minor* term. In order to prove the concluſion, each of its terms is, in the premiſes, compared with a third term, called the *middle* term. By this means one of the premiſes will have for its two terms the major term and the middle term; and this premiſe is called the *major* premiſe, or the *major* propoſition of the ſyllogiſm. The other premiſe muſt have for its two terms the minor term and the middle term, and it is called the *minor* propoſition. Thus the ſyllogiſm conſiſts of three propoſitions, diſtinguiſhed by the names of the *major*, the *minor*, and the *concluſion:* and although each of theſe has two terms, a ſubject and a predicate, yet there are only three different

terms in all. The major term is always the predicate of the concluſion, and is alſo either the ſubject or predicate of the major propoſition. The minor term is always the ſubject of the concluſion, and is alſo either the ſubject or predicate of the minor propoſition. The middle term never enters into the concluſion, but ſtands in both premiſes, either in the poſition of ſubject or of predicate.

According to the various poſitions which the middle term may have in the premiſes, ſyllogiſms are ſaid to be of various figures. Now all the poſſible poſitions of the middle term are only four: for, firſt, it may be the ſubject of the major propoſition, and the predicate of the minor, and then the ſyllogiſm is of the firſt figure; or it may be the predicate of both premiſes, and then the ſyllogiſm is of the ſecond figure; or it may be the ſubject of both, which makes a ſyllogiſm of the third figure; or it may be the predicate of the major propoſition, and the ſubject of the minor, which makes the fourth figure. Ariſtotle takes no notice of the fourth figure. It was added by the famous Galen, and is often called *the Galenical figure.*

There is another diviſion of ſyllogiſms according to their modes. The mode of a ſyllogiſm is determined by the quality and quantity of the propoſitions of which it conſiſts. Each of the three propoſitions muſt be either an univerſal affirmative, or an univerſal negative, or a particular affirmative, or a particular negative. Theſe four kinds of propoſitions, as was before obſerved, have been named by the four vowels, A, E, I, O;

by which means the mode of a ſyllogiſm is marked by any three of thoſe four vowels. Thus A, A, A, denotes that mode in which the major, minor, and concluſion, are all univerſal affirmatives; E, A, E, denotes that mode in which the major and concluſion are univerſal negatives, and the minor is an univerſal affirmative.

To know all the poſſible modes of ſyllogiſm, we muſt find how many different combinations may be made of three out of the four vowels, and from the art of combination the number is found to be ſixty-four. So many poſſible modes there are in every figure, conſequently in the three figures of Ariſtotle there are one hundred and ninety-two, and in all the four figures two hundred and fifty-ſix.

Now the theory of ſyllogiſm requires, that we ſhow what are the particular modes in each figure, which do, or do not, form a juſt and concluſive ſyllogiſm, that ſo the legitimate may be adopted, and the ſpurious rejected. This Ariſtotle has ſhown in the firſt three figures, examining all the modes one by one, and paſſing ſentence upon each; and from this examination he collects ſome rules which may aid the memory in diſtinguiſhing the falſe from the true, and point out the properties of each figure.

The firſt figure has only four legitimate modes. The major propoſition in this figure muſt be univerſal, and the minor affirmative; and it has this property, that it yields concluſions of all kinds, affirmative and negative, univerſal and particular.

The ſecond figure has alſo four legitimate modes. Its major propoſition muſt be univerſal, and one of the premiſes muſt be negative. It yields concluſions both univerſal and particular, but all negative.

The third figure has ſix legitimate modes. Its minor muſt always be affirmative; and it yields concluſions both affirmative and negative, but all particular.

Beſides the rules that are proper to each figure, Ariſtotle has given ſome that are common to all, by which the legitimacy of ſyllogiſms may be tried. Theſe may, I think, be reduced to five. 1. There muſt be only three terms in a ſyllogiſm. As each term occurs in two of the propoſitions, it muſt be preciſely the ſame in both: if it be not, the ſyllogiſm is ſaid to have four terms, which makes a vitious ſyllogiſm. 2. The middle term muſt be taken univerſally in one of the premiſes. 3. Both premiſes muſt not be particular propoſitions, nor both negative. 4. The concluſion muſt be particular, if either of the premiſes be particular; and negative, if either of the premiſes be negative. 5. No term can be taken univerſally in the concluſion, if it be not taken univerſally in the premiſes.

For underſtanding the ſecond and fifth of theſe rules, it is neceſſary to obſerve, that a term is ſaid to be taken univerſally, not only when it is the ſubject of an univerſal propoſition, but when it is the predicate of a negative propoſition; on the other hand, a term is ſaid to be taken particu-

larly, when it is either the ſubject of a particular, or the predicate of an affirmative propoſition.

## Sect. 3. *Of the Invention of a Middle Term.*

The third part of this book contains rules general and ſpecial for the invention of a middle term; and this the author conceives to be of great utility. The general rules amount to this, That you are to conſider well both terms of the propoſition to be proved; their definition, their properties, the things which may be affirmed or denied of them and thoſe of which they may be affirmed or denied: theſe things collected together, are the materials from which your middle term is to be taken.

The ſpecial rules require you to conſider the quantity and quality of the propoſition to be proved, that you may diſcover in what mode and figure of ſyllogiſm the proof is to proceed. Then from the materials before collected, you muſt ſeek a middle term which has that relation to the ſubject and predicate of the propoſition to be proved, which the nature of the ſyllogiſm requires. Thus, ſuppoſe the propoſition I would prove is an univerſal affirmative, I know by the rules of ſyllogiſm, that there is only one legitimate mode in which that is the firſt mode of the firſt figure. I known an univerſal affirmative propoſition can be proved; and likewiſe, that in this mode both the premiſes muſt be univerſal affirmatives; and that the middle term muſt be the ſubject of the major, and the predicate

of the minor. Therefore of the terms collected according to the general rule, I ſeek out one or more which have theſe two properties; firſt, That the predicate of the propoſition to be proved can be univerſally affirmed of it; and ſecondly, That it can be univerſally affirmed of the ſubject of the propoſition to be proved. Every term you can find which has thoſe two properties, will ſerve you as a middle term, but no other. In this way the author gives ſpecial rules for all the various kinds of propoſitions to be proved; points out the various modes in which they may be proved, and the properties which the middle term muſt have to make it fit for anſwering that end. And the rules are illuſtrated, or rather, in my opinion, purpoſely darkened, by putting letters of the alphabet for the ſeveral terms.

SECT. 4. *Of the remaining part of the Firſt Book.*

The reſolution of ſyllogiſms requires no other principles but theſe before laid down for conſtructing them. However it is treated of largely, and rules laid down for reducing reaſoning to ſyllogiſms, by ſupplying one of the premiſes when it is underſtood, by rectifying inverſions, and putting the propoſitions in the proper order.

Here he ſpeaks alſo of hypothetical ſyllogiſms; which he acknowledges cannot be reſolved into any of the figures, although there be many kinds of them that ought diligently to be obſerved; and

which he promiſes to handle afterwards. But this promiſe is not fulfilled, as far as I know, in any of his works that are extant.

## Sect. 5. *Of the Second Book of the Firſt Analytics.*

The ſecond book treats of the powers of ſyllogiſms, and ſhows, in twenty-ſeven chapters, how we may perform many feats by them, and what figures and modes are adapted to each. Thus, in ſome ſyllogiſms ſeveral diſtinct concluſions may be drawn from the ſame premiſes: in ſome, true concluſions may be drawn from falſe premiſes: in ſome, by aſſuming the concluſion and one premiſe, you may prove the other; you may turn a direct ſyllogiſm into one leading to an abſurdity.

We have likewiſe precepts given in this book, both to the aſſailant in a ſyllogiſtical diſpute, how to carry on his attack with art, ſo as to obtain the victory; and to the defendant, how to keep the enemy at ſuch a diſtance as that he ſhall never be obliged to yield. From which we learn, that Ariſtotle introduced in his own ſchool, the practice of ſyllogiſtical diſputation, inſtead of the rhetorical diſputations which the ſophiſts were wont to uſe in more ancient times.

## CHAP. IV.

### Remarks.

#### SECT. I. *Of the Converſion of Propoſitions.*

WE have given a ſummary view of the theory of pure ſyllogiſms as delivered by Ariſtotle, a theory of which he claims the ſole invention. And I believe it will be difficult, in any ſcience, to find ſo large a ſyſtem of truths of ſo very abſtract and ſo general a nature, all fortified by demonſtration, and all invented and perfected by one man. It ſhows a force of genius, and labor of inveſtigation, equal to the moſt arduous attempts. I ſhall now make ſome remarks upon it.

As to the converſion of propoſitions, the writers on logic commonly ſatisfy themſelves with illuſtrating each of the rules by an example, conceiving them to be ſelf-evident when applied to particular caſes. But Ariſtotle has given demonſtrations of the rules he mentions. As a ſpecimen, I ſhall give his demonſtration of the firſt rule. "Let A B "be an univerſal negative propoſition; I ſay, that "if A is in no B, it will follow that B is in no A. "If you deny this conſequence, let B be in ſome "A, for example, in C; then the firſt ſuppoſition "will not be true; for C is of the B's." In this demonſtration, if I underſtand it, the third rule

of converſion is aſſumed, that if B is in ſome A, then A muſt be in ſome B, which indeed is contrary to the firſt ſuppoſition. If the third rule be aſſumed for proof of the firſt, the proof of all the three goes round in a circle; for the ſecond and third rules are proved by the firſt. This is a fault in reaſoning which Ariſtotle condemns, and which I would be very unwilling to charge him with, if I could find any better meaning in his demonſtration. But it is indeed a fault very difficult to be avoided, when men attempt to prove things that are ſelf-evident.

The rules of converſion cannot be applied to all propoſitions, but only to thoſe that are categorical; and we are left to the direction of common ſenſe in the converſion of other propoſitions. To give an example; Alexander was the ſon of Philip; therefore Philip was the father of Alexander: A is greater than B; therefore B is leſs than A. Theſe are converſions which, as far as I know, do not fall within any rule in logic; nor do we find any loſs for want of a rule in ſuch caſes.

Even in the converſion of categorical propoſitions, it is not enough to tranſpoſe the ſubject and predicate. Both muſt undergo ſome change, in order to fit them for their new ſtation: for in every propoſition the ſubject muſt be a ſubſtantive, or have the force of a ſubſtantive; and the predicate muſt be an adjective, or have the force of an adjective. Hence it follows, that when the ſubject is an individual, the propoſition admits not of converſion. How, for inſtance, ſhall we convert this propoſition, God is omniſcient?

Theſe obſervations ſhow, that the doctrine of the converſion of propoſitions is not ſo complete as it appears. The rules are laid down without any limitation; yet they are fitted only to one claſs of propoſitions, to wit, the categorical; and of theſe only to ſuch as have a general term for their ſubject.

SECT. 2. *On Additions made to Ariſtotle's Theory.*

Although the logicians have enlarged the firſt and ſecond parts of logic, by explaining ſome technical words and diſtinctions which Ariſtotle has omitted, and by giving names to ſome kinds of propoſitions which he overlooks; yet in what concerns the theory of categorical ſyllogiſms, he is more full, more minute and particular, than any of them: ſo that they ſeem to have thought this capital part of the Organon rather redundant than deficient.

It is true, that Galen added a fourth figure to the three mentioned by Ariſtotle. But there is reaſon to think that Ariſtotle omitted the fourth figure, not through ignorance or inattention, but of deſign, as containing only ſome indirect modes, which, when properly expreſſed, fall into the firſt figure.

It is true alſo, that Peter Ramus, a profeſſed enemy of Ariſtotle, introduced ſome new modes that are adapted to ſingular propoſitions; and that Ariſtotle takes no notice of ſingular propoſitions,

either in his rules of converſion, or in the modes of ſyllogiſm. But the friends of Ariſtotle have ſhown, that this improvement of Ramus is more ſpecious than uſeful. Singular propoſitions have the force of univerſal propoſitions, and are ſubject to the ſame rules. The definition given by Ariſtotle of an univerſal propoſition applies to them; and therefore he might think, that there was no occaſion to multiply the modes of ſyllogiſm upon their account.

Theſe attempts, therefore, ſhow rather inclination than power, to diſcover any material defect in Ariſtotle's theory.

The moſt valuable addition made to the theory of categorical ſyllogiſms, ſeems to be the invention of thoſe technical names given to the legitimate modes, by which they may be eaſily remembered, and which have been compriſed in theſe barbarous verſes.

*Barbara*, *Celarent*, *Darii*, *Ferio*, dato primæ;
*Cæſare*, *Cameſtris*, *Feſtino*, *Baroco*, ſecundæ;
Tertia grande ſonans recitat *Darapti*, *Felapton*;
Adjungens *Diſamis*, *Datiſi*, *Bocardo*, *Feriſon*.

In theſe verſes, every legitimate mode belonging to the three figures has a name given to it, by which it may be diſtinguiſhed and remembered. And this name is ſo contrived as to denote its nature; for the name has three vowels, which denote the kind of each of its propoſitions.

Thus, a ſyllogiſm in *Bocardo* muſt be made up

of the propoſitions denoted by the three vowels, O, A, O; that is, its major and concluſion muſt be particular negative propoſitions, and its minor an univerſal affirmative; and being in the third figure, the middle term muſt be the ſubject of both premiſes.

This is the myſtery contained in the vowels of thoſe barbarous words. But there are other myſteries contained in their conſonants: for, by their means, a child may be taught to reduce any ſyllogiſm of the ſecond or third figure to one of the firſt. So that the four modes of the firſt figure being directly proved to be concluſive, all the modes of the other two are proved at the ſame time, by means of this operation of reduction. For the rules and manner of this reduction, and the different ſpecies of it, called *oſtenſive* and *per impoſſibile*, I refer to the logicians, that I may not diſcloſe all their myſteries.

The invention contained in theſe verſes is ſo ingenious, and ſo great an adminicle to the dexterous management of ſyllogiſms, that I think it very probable that Ariſtotle had ſome contrivance of this kind, which was kept as one of the ſecret doctrines of his ſchool, and handed down by tradition, until ſome perſon brought it to light. This is offered only as a conjecture, leaving it to thoſe who are better acquainted with the moſt ancient commentators on the Analytics, either to refute or to confirm it.

SECT. 3. *On Examples uſed to illuſtrate this Theory.*

We may obſerve, that Ariſtotle hardly ever gives examples of real ſyllogiſms to illuſtrate his rules. In demonſtrating the legitimate modes, he takes A, B, C, for the terms of the ſyllogiſm. Thus, the firſt mode of the firſt figure is demonſtrated by him in this manner. "For," ſays he, "if A is attributed "to every B, and B to every C, it follows neceſ- "ſarily, that A may be attributed to every C." For diſproving the illegitimate modes, he uſes the ſame manner; with this difference, that he commonly for an example gives three real terms, ſuch as, *bonum*, *habitus*, *Prudentia*; of which three terms you are to make up a ſyllogiſm of the figure and mode in queſtion, which will appear to be inconcluſive.

The commentators and ſyſtematical writers in logic, have ſupplied this defect; and given us real examples of every legitimate mode in all the figures. We acknowledge this to be charitably done, in order to aſſiſt the conception in matters ſo very abſtract; but whether it was prudently done for the honor of the art, may be doubted. I am afraid this was to uncover the nakedneſs of the theory: it has undoubtedly contributed to bring it into contempt; for when one conſiders the ſilly and uninſtructive reaſonings that have been brought forth by this grand organ of ſcience, he can hardly forbear crying out, *Parturiunt montes, & naſcitur ridiculus mus.* Many of the writers of logic are acute and ingenious, and much practiſed in the ſyllogiſtical

art; and there muſt be ſome reaſon why the examples they have given of ſyllogiſms are ſo lean.

We ſhall ſpeak of the reaſon afterwards; and ſhall now give a ſyllogiſm in each figure as an example.

No work of God is bad;

The natural paſſions and appetites of men are the work of God;

Therefore none of them is bad.

In this ſyllogiſm, the middle term, *work of God*, is the ſubject of the major and the predicate of the minor, ſo that the ſyllogiſm is of the firſt figure. The mode is that called *Celarent*, the major and concluſion being both univerſal negatives, and the minor an univerſal affirmative. It agrees to the rules of the figure, as the major is univerſal, and the minor affirmative; it is alſo agreeable to all the general rules; ſo that it maintains its character in every trial. And to ſhow of what ductile materials ſyllogiſms are made, we may, by converting ſimply the major propoſition, reduce it to a good ſyllogiſm of the ſecond figure, and of the mode *Ceſare*, thus:

Whatever is bad is not the work of God;

All the natural paſſions and appetites of men are the work of God;

Therefore they are not bad.

Another example:

Every thing virtuous is praiſe-worthy;

Some pleaſures are not praiſe-worthy;

Therefore ſome pleaſures are not virtuous.

Here the middle term *praiſe-worthy* being the predicate of both premiſes, the ſyllogiſm is of the

ſecond figure; and ſeeing it is made up of the propoſitions, A, O, O, the mode is *Baroco*. It will be found to agree both with the general and ſpecial rules: and it may be reduced into a good ſyllogiſm of the firſt figure upon converting the major by contrapoſition, thus:

What is not praiſe-worthy is not virtuous;
Some pleaſures are not praiſe-worthy;
Therefore ſome pleaſures are not virtuous.

That this ſyllogiſm is concluſive, common ſenſe pronounces, and all logicians muſt allow: but it is ſomewhat unpliable to rules, and requires a little ſtraining to make it tally with them.

That it is of the firſt figure is beyond diſpute; but to what mode of that figure ſhall we refer it? This is a queſtion of ſome difficulty. For, in the firſt place, the premiſes ſeem to be both negative, which contradicts the third general rule; and moreover, it is contrary to a ſpecial rule of the firſt figure, That the minor ſhould be negative. Theſe are the difficulties to be removed.

Some logicians think, that the two negative particles in the major are equivalent to an affirmative; and that therefore the major propoſition, *What is not praiſe-worthy, is not virtuous*, is to be accounted an affirmative propoſition. This, if granted, ſolves one difficulty; but the other remains. The moſt ingenious ſolution, therefore, is this: Let the middle term be *not praiſe-worthy*. Thus, making the negative particle a part of the middle term, the ſyllogiſm ſtands thus:

Whatever is *not praiſe-worthy*, is not virtuous;

Some pleaſures are *not praiſe-worthy*;
Therefore ſome pleaſures are not virtuous.

By this analyſis, the major becomes an univerſal negative, the minor a particular affirmative, and the concluſion a particular negative, and ſo we have a juſt ſyllogiſm in *Ferio*.

We ſee, by this example, that the quality of propoſitions is not ſo invariable, but that, when occaſion requires, an affirmative may be degraded into a negative, or a negative exalted to an affirmative.

Another example:

All Africans are black;
All Africans are men;
Therefore ſome men are black.

This is of the third figure, and of the mode *Darapti*; and it may be reduced to *Daril* in the firſt figure, by converting the minor.

All Africans are black;
Some men are Africans;
Therefore ſome men are black.

By this time I apprehend the reader has got as many examples of ſyllogiſms as will ſtay his appetite for that kind of entertainment.

### Sect. 4. *On the Demonſtration of the Theory.*

Ariſtotle and all his followers have thought it neceſſary, in order to bring this theory of categorical ſyllogiſms to a ſcience; to demonſtrate, both that the fourteen authorized modes conclude juſtly, and that none of the reſt do. Let us now ſee how this has been executed.

As

As to the legitimate modes, Ariſtotle and thoſe who follow him the moſt cloſely, demonſtrate the four modes of the firſt figure directly from an axiom called the *Dictum de omni & nullo.* The amount of the axiom is, That what is affirmed of a whole *genus*, may be affirmed of all the ſpecies and individuals belonging to that *genus;* and that what is denied of the whole genus, may be denied of its ſpecies and individuals. The four modes of the firſt figure are evidently included in this axiom. And as to the legitimate modes of the other figures, they are proved by reducing them to ſome mode of the firſt. Nor is there any other principle aſſumed in theſe reductions but the axioms concerning the converſion of propoſitions, and in ſome caſes the axioms concerning the oppoſition of propoſitions.

As to the illegitimate modes, Ariſtotle has taken the labor to try and condemn them one by one in all the three figures: but this is done in ſuch a manner that it is very painful to follow him. To give a ſpecimen. In order to prove, that thoſe modes of the firſt figure in which the major is particular, do not conclude, he proceeds thus: "If "A is or is not in ſome B, and B in every C, no "concluſion follows. Take for the terms in the "affirmative caſe, *good*, *habit*, *prudence*, in the "negative, *good*, *habit*, *ignorance.*" This laconic ſtyle, the uſe of ſymbols not familiar, and, in place of giving an example, his leaving us to form one from three aſſigned terms, give ſuch embarraſſment to a reader, that he is like one reading a book of riddles.

Having thus aſcertained the true and falſe modes of a figure, he ſubjoins the particular rules of that figure, which ſeem to be deduced from the particular caſes before determined. The general rules come laſt of all, as a general corollary from what goes before.

I know not whether it is from a diffidence of Ariſtotle's demonſtrations, or from an apprehenſion of their obſcurity, or from a deſire of improving upon his method, that almoſt all the writers in logic I have met with, have inverted his order, beginning where he ends, and ending where he begins. They firſt demonſtrate the general rules, which belong to all the figures, from three axioms; then from the general rules and the nature of each figure, they demonſtrate the ſpecial rules of each figure. When this is done, nothing remains but to apply theſe general and ſpecial rules, and to reject every mode which contradicts them.

This method has a very ſcientific appearance: and when we conſider, that by a few rules once demonſtrated, a hundred and ſeventy-eight falſe modes are deſtroyed at one blow, which Ariſtotle had the trouble to put to death one by one, it ſeems to be a great improvement. I have only one objection to the three axioms.

The three axioms are theſe: 1. Things which agree with the ſame third, agree with one another. 2. When one agrees with the third, and the other does not, they do not agree with one another. 3. When neither agrees with the third, you cannot thence conclude, either that they do, or do not

agree with one another. If theſe axioms are applied to mathematical quantities, to which they ſeem to relate when taken litterally, they have all the evidence that an axiom ought to have: but the logicians apply them in an analogical ſenſe to things of another nature. In order, therefore, to judge whether they are truly axioms, we ought to ſtrip them of their figurative dreſs, and to ſet them down in plain Engliſh, as the logicians underſtand them. They amount therefore to this. 1. If two things be affirmed of a third, or the third be affirmed of them; or if one be affirmed of the third, and the third affirmed of the other; then they may be affirmed one of the other. 2. If one is affirmed of the third, or the third of it, and the other denied of the third, or the third of it, they may be denied one of the other. 3. If both are denied of the third, or the third of them; or if one is denied of the third, and the third denied of the other; nothing can be inferred.

When the three axioms are thus put in plain Engliſh, they ſeem not to have that degree of evidence which axioms ought to have; and if there is any defect of evidence in the axioms, this defect will be communicated to the whole edifice raiſed upon them.

It may even be ſuſpected, that an attempt by any method to demonſtrate that a ſyllogiſm is concluſive, is an impropriety ſomewhat like that of attempting to demonſtrate an axiom. In a juſt ſyllogiſm, the connexion between the premiſes and the concluſion is not only real, but immediate; ſo that no propoſition can come between them to make

their connexion more apparent. The very intention of a ſyllogiſm is, to leave nothing to be ſupplied that is neceſſary to a complete demonſtration. Therefore a man of common underſtanding who has a perfect comprehenſion of the premiſes, finds himſelf under a neceſſity of admitting the concluſion, ſuppoſing the premiſes to be true; and the concluſion is connected with the premiſes with all the force of intuitive evidence. In a word, an immediate concluſion is ſeen in the premiſes, by the light of common ſenſe; and where that is wanting, no kind of reaſoning will ſupply its place.

SECT. 5. *On this Theory, conſidered as an Engine of Science.*

The ſlow progreſs of uſeful knowledge, during the many ages in which the ſyllogiſtic art was moſt highly cultivated as the only guide to ſcience, and its quick progreſs ſince that art was diſuſed, ſuggeſt a preſumption againſt it; and this preſumption is ſtrengthened by the puerility of the examples which have always been brought to illuſtrate its rules.

The ancients ſeem to have had too high notions, both of the force of the reaſoning power in man, and of the art of ſyllogiſm as its guide. Mere reaſoning can carry us but a very little way in moſt ſubjects. By obſervation, and experiments properly conducted, the ſtock of human knowledge may be enlarged without end; but the power of reaſoning alone, applied with vigor through a long life, would only carry a man round, like a horſe in a mill who

labors hard but makes no progreſs. There is indeed an exception to this obſervation in the mathematical ſciences. The relations of quantity are ſo various and ſo ſuſceptible of exact menſuration, that long trains of accurate reaſoning on that ſubject may be formed, and concluſions drawn very remote from the firſt principles. It is in this ſcience and thoſe which depend upon it, that the power of reaſoning triumphs; in other matters its trophies are inconſiderable. If any man doubt this, let him produce, in any ſubject unconnected with mathematics, a train of reaſoning of ſome length, leading to a concluſion, which without this train of reaſoning would never have been brought within human ſight. Every man acquainted with mathematics can produce thouſands of ſuch trains of reaſoning. I do not ſay, that none ſuch can be produced in other ſciences; but I believe they are few, and not eaſily found; and that if they are found, it will not be in ſubjects that can be expreſſed by categorical propoſitions, to which alone the theory of figure and mode extends.

In matters to which that theory extends, a man of good ſenſe, who can diſtinguiſh things that differ, can avoid the ſnares of ambiguous words, and if moderately practiſed in ſuch matters, ſees at once all that can be inferred from the premiſes; or finds, that there is but a very ſhort ſtep to the concluſion.

When the power of reaſoning is ſo feeble by nature, eſpecially in ſubjects to which this theory can be applied, it would be unreaſonable to expect great effects from it. And hence we ſee the reaſon why the examples brought to illuſtrate it by the

moſt ingenious logicians, have rather tended to bring it into contempt.

If it ſhould be thought, that the ſyllogiſtic art may be an uſeful engine in mathematics, in which pure reaſoning has ample ſcope: Firſt, It may be obſerved, That facts are unfavorable to this opinion: for it does not appear, that Euclid, or Apollonius, or Archimedes, or Hugens, or Newton, ever made the leaſt uſe of this art; and I am even of opinion, that no uſe can be made of it in mathematics. I would not wiſh to advance this raſhly, ſince Ariſtotle has ſaid, that mathematicians reaſon for the moſt part in the firſt figure. What led him to think ſo was, that the firſt figure only yields concluſions that are univerſal and affirmative, and the concluſions of mathematics are commonly of that kind. But it is to be obſerved, that the propoſitions of mathematics are not categorical propoſitions, conſiſting of one ſubject and one predicate. They expreſs ſome relation which one quantity bears to another, and on that account muſt have three terms. The quantities compared make two, and the relation between them is a third. Now to ſuch propoſitions we can neither apply the rules concerning the converſion of propoſitions, nor can they enter into a ſyllogiſm of any of the figures or modes. We obſerved before, that this converſion, *A is greater than B*, therefore *B is leſs than A*, does not fall within the rules of converſion given by Ariſtotle or the logicians; and we now add, that this ſimple reaſoning, *A is equal to B, and B to C*; therefore *A is equal to C*, cannot be brought into

any ſyllogiſm in figure and mode. There are indeed ſyllogiſms into which mathematical propoſitions may enter, and of ſuch we ſhall afterwards ſpeak: but they have nothing to do with the ſyſtem of figure and mode.

When we go without the circle of the mathematical ſciences, I know nothing in which there ſeems to be ſo much demonſtration as in that part of logic which treats of the figures and modes of ſyllogiſm; but the few remarks we have made, ſhow, that it has ſome weak places: and beſides, this ſyſtem cannot be uſed as an engine to rear itſelf.

The compaſs of the ſyllogiſtic ſyſtem as an engine of ſcience, may be diſcerned by a compendious and general view of the concluſion drawn, and the argument uſed to prove it, in each of the three figures.

In the firſt figure, the concluſion affirms or denies ſomething of a certain ſpecies or individual; and the argument to prove this concluſion is, That the ſame thing may be affirmed or denied of the whole genus to which that ſpecies or individual belongs.

In the ſecond figure, the concluſion is, That ſome ſpecies or individual does not belong to ſuch a genus; and the argument is, That ſome attribute common to the whole genus does not belong to that ſpecies or individual.

In the third figure, the concluſion is, That ſuch an attribute belongs to part of a genus; and the argument is, That the attribute in queſtion belongs to a ſpecies or individual which is part of that genus.

I apprehend, that in this ſhort view, every concluſion that falls within the compaſs of the three figures, as well as the mean of proof, is comprehended. The rules of all the figures might be eaſily deduced from it; and it appears, that there is only one principle of reaſoning in all the three; ſo that it is not ſtrange, that a ſyllogiſm of one figure ſhould be reduced to one of another figure.

The general principle in which the whole terminates, and of which every categorical ſyllogiſm is only a particular application, is this, That what is affirmed or denied of the whole genus, may be affirmed or denied of every ſpecies and individual belonging to it. This is a principle of undoubted certainty indeed, but of no great depth. Ariſtotle and all the logicians aſſume it as an axiom or firſt principle, from which the ſyllogiſtic ſyſtem, as it were, takes its departure; and after a tedious voyage, and great expenſe of demonſtration, it lands at laſt in this principle as its ultimate concluſion. *O curas hominum! O quantum eſt in rebus inane!*

## Sect. 6. *On Modal Syllogiſms.*

Categorical propoſitions, beſide their quantity and quality, have another affection, by which they are divided into pure and modal. In a pure propoſition, the predicate is barely affirmed or denied of the ſubject; but in a modal propoſition, the affirmation or negation is modified, by being declared to be neceſſary, or contingent, or poſſible, or im-

poſſible. Theſe are the four modes obſerved by Ariſtotle, from which he denominates a propoſition modal. His genuine diſciples maintain, that theſe are all the modes that can affect an affirmation or negation, and that the enumeration is complete. Others maintain, that this enumeration is incomplete; and that when an affirmation or negation is ſaid to be certain or uncertain, probable or improbable, this makes a modal propoſition, no leſs than the four modes of Ariſtotle. We ſhall not enter into this diſpute; but proceed to obſerve, that the epithets of *pure* and *modal* are applied to ſyllogiſms as well as to propoſitions. A pure ſyllogiſm is that in which both premiſes are pure propoſitions. A modal ſyllogiſm is that in which either of the premiſes is a modal propoſition.

The ſyllogiſms of which we have already ſaid ſo much, are thoſe only which are pure as well as categorical. But when we conſider, that through all the figures and modes, a ſyllogiſm may have one premiſe modal of any of the four modes, while the other is pure, or it may have both premiſes modal, and that they may be either of the ſame mode or of different modes; what prodigious variety ariſes from all theſe combinations? Now it is the buſineſs of a logician, to ſhow how the concluſion is affected in all this variety of caſes. Ariſtotle has done this in his Firſt Analytics, with immenſe labor; and it will not be thought ſtrange, that when he had employed only four chapters in diſcuſſing one hundred and ninety-two modes, true and falſe, of pure ſyllogiſms, he ſhould employ fifteen upon modal ſyllogiſms.

I am very willing to excuſe myſelf from entering upon this great branch of logic, by the judgment and example of thoſe who cannot be charged either with want of reſpect to Ariſtotle, or with a low eſteem of the ſyllogiſtic art.

Keckerman, a famous Dantzican profeſſor, who ſpent his life in teaching and writing logic, in his huge folio ſyſtem of that ſcience, publiſhed *ann.* 1600, calls the doctrine of the modals the *crux logicorum.* With regard to the ſcholaſtic doctors, among whom this was a proverb, *De modalibus non guſtabit aſinus*, he thinks it very dubious, whether they tortured moſt the modal ſyllogiſms, or were moſt tortured by them. But thoſe crabbed geniuſes, ſays he, made this doctrine ſo very thorny, that it is fitter to tear a man's wits in pieces than to give them ſolidity. He deſires it to be obſerved, that the doctrine of the modals is adapted to the Greek language. The modal terms were frequently uſed by the Greeks in their diſputations; and, on that account, are ſo fully handled by Ariſtotle: but in the Latin tongue you ſhall hardly ever meet with them. Nor do I remember, in all my experience, ſays he, to have obſerved any man in danger of being foiled in a diſpute, through his ignorance of the modals.

This author, however, out of reſpect to Ariſtotle, treats pretty fully of modal propoſitions, ſhowing how to diſtinguiſh their ſubject and predicate, their quantity and quality. But the modal ſyllogiſms he paſſes over altogether.

Ludovicus Vives, whom I mention, not as a

devotee of Ariſtotle, but on account of his own judgment and learning, thinks that the doctrine of modals ought to be baniſhed out of logic, and remitted to grammar; and that if the grammar of the Greek tongue had been brought to a ſyſtem in the time of Ariſtotle, that moſt acute philoſopher would have ſaved the great labor he has beſtowed on this ſubject.

Burgerſdick, after enumerating five claſſes of modal ſyllogiſms, obſerves, that they require many rules and cautions, which Ariſtotle hath handled diligently; but that as the uſe of them is not great and their rules difficult, he thinks it not worth while to enter into the diſcuſſion of them; recommending to thoſe who would underſtand them, the moſt learned paraphraſe of Joannes Monlorius upon the firſt book of the Firſt Analytics.

All the writers of logic for two hundred years back that have fallen into my hands, have paſſed over the rules of modal ſyllogiſms with as little ceremony. So that this great branch of the doctrine of ſyllogiſm, ſo diligently handled by Ariſtotle, fell into neglect, if not contempt, even while the doctrine of pure ſyllogiſms continued in the higheſt eſteem. Moved by theſe authorities, I ſhall let this doctrine reſt in peace, without giving the leaſt diſturbance to its aſhes.

SECT. 7. *On Syllogiſms that do not belong to Figure and Mode.*

Ariſtotle gives ſome obſervations upon imperfect ſyllogiſms; ſuch as, the Enthimema, in which one

of the premiſes is not expreſſed but underſtood: Induction, wherein we collect an univerſal from a full enumeration of particulars: and Examples, which are an imperfect induction. The logicians have copied Ariſtotle upon theſe kinds of reaſoning, without any conſiderable improvement. But to compenſate the modal ſyllogiſms, which they have laid aſide, they have given rules for ſeveral kinds of ſyllogiſm, of which Ariſtotle takes no notice. Theſe may be reduced to two claſſes.

The firſt claſs comprehends the ſyllogiſms into which any excluſive, reſtrictive, exceptive, or reduplicative propoſition enters. Such propoſitions are by ſome called *exponible*, by others *imperfectly modal*. The rules given with regard to theſe are obvious, from a juſt interpretation of the propoſitions.

The ſecond claſs is that of hypothetical ſyllogiſms, which take that denomination from having a hypothetical propoſition for one or both premiſes. Moſt logicians give the name of *hypothetical* to all complex propoſitions which have more terms than one ſubject and one predicate. I uſe the word in this large ſenſe; and mean by hypothetical ſyllogiſms, all thoſe in which either of the premiſes conſiſts of more terms than two. How many various kinds there may be of ſuch ſyllogiſms, has never been aſcertained. The logicians have given names to ſome; ſuch as, the copulative, the conditional by ſome called hypothetical, and the disjunctive.

Such ſyllogiſms cannot be tried by the rules of figure and mode. Every kind would require rules

peculiar to itſelf. Logicians have given rules for ſome kinds; but there are many that have not ſo much as a name.

The Dilemma is conſidered by moſt logicians as a ſpecies of the disjunctive ſyllogiſm. A remarkable property of this kind is, that it may ſometimes be happily retorted: it is, it ſeems, like a hand-grenade, which by dexterous management may be thrown back, ſo as to ſpend its force upon the aſſailant. We ſhall conclude this tedious account of ſyllogiſms, with a dilemma mentioned by *A. Gellius*, and from him by many logicians, as inſoluble in any other way.

" Euathlus, a rich young man, deſirous of learning " the art of pleading, applied to Protagoras, a cele- " brated ſophiſt, to inſtruct him, promiſing a great " ſum of money as his reward; one half of which " was paid down; the other half he bound himſelf " to pay as ſoon as he ſhould plead a cauſe before " the judges, and gain it. Protagoras found him " a very apt ſcholar; but, after he had made good " progreſs, he was in no haſte to plead cauſes. The " maſter, conceiving that he intended by this means " to ſhift off his ſecond payment, took, as he " thought, a ſure method to get the better of his " delay. He ſued Euathlus before the judges; and, " having opened his cauſe at the bar, he pleaded " to this purpoſe. O moſt fooliſh young man, do " you not ſee, that, in any event, I muſt gain " my point? for if the judges give ſentence for me, " you muſt pay by their ſentence; if againſt me, " the condition of our bargain is fulfilled, and you

" have no plea left for your delay, after having " pleaded and gained a cauſe. To which Euathlus " anſwered. O moſt wiſe maſter, I might have " avoided the force of your argument, by not " pleading my own cauſe. But, giving up this " advantage, do you not ſee, that whatever ſentence " the judges paſs, I am ſafe? If they give ſentence " for me, I am acquitted by their ſentence; if againſt " me the condition of our bargain is not fulfilled, " by my pleading a cauſe, and loſing it, The " judges, thinking the arguments unanſwerable on " both ſides put off the cauſe to a long day."

## CHAP. V.

### Account of the remaining books of the Organon.

#### SECT. I. *Of the Laſt Analytics.*

IN the Firſt Analytics, ſyllogiſms are conſidered in reſpect of their form; they are now to be conſidered in reſpect of their matter. The form lies in the neceſſary connexion between the premiſes and the concluſion; and where ſuch a connexion is wanting, they are ſaid to be informal, or vicious in point of form.

But where there is no fault in the form, there may be in the matter; that is, in the propoſitions of which they are compoſed, which may be true or falſe, probable or improbable.

When the premiſes are certain, and the concluſion drawn from them in due form, this is demonſtration, and produces ſcience. Such ſyllogiſms are called *apodictical*; and are handled in the two books of the Laſt Analytics. When the premiſes are not certain, but probable only, ſuch ſyllogiſms are called *dialectical*, and of them he treats in the eight books of the Topics. But there are ſome ſyllogiſms which ſeem to be perfect both in matter and form, when they are not really ſo: as, a face may ſeem beautiful which is but painted. Theſe being apt to deceive, and produce a falſe opinion, are called *ſophiſtical*; and they are the ſubject of the book concerning Sophiſms.

To return to the Laſt Analytics, which treat of demonſtration and of ſcience: We ſhall not pretend to abridge theſe books; for Ariſtotle's writings do not admit of abridgment: no man in fewer words can ſay what he ſays; and he is not often guilty of repetition. We ſhall only give ſome of his capital concluſions, omitting his long reaſonings and nice diſtinctions, of which his genius was wonderfully productive.

All demonſtration muſt be built upon principles already known; and theſe upon others of the ſame kind; until we come at laſt to firſt principles, which neither can be demonſtrated, nor need to be, being evident of themſelves.

We cannot demonſtrate things in a circle, ſupporting the concluſion by the premiſes, and the premiſes by the concluſion. Nor can there be an infinite number of middle terms between the firſt principle and the concluſion.

In all demonſtration, the firſt principles, the concluſion, and all the intermediate propoſitions, muſt be neceſſary, general, and eternal truths: for of things fortuitous, contingent, or mutable, or of individual things, there is no demonſtration.

Some demonſtrations prove only, that the thing is thus affected; others prove, why it is thus affected. The former may be drawn from a remote cauſe, or from an effect: but the latter muſt be drawn from un immediate cauſe; and are the moſt perfect.

The firſt figure is beſt adapted to demonſtration, becauſe it affords concluſions univerſally affirmative; and this figure is commonly uſed by the mathematicians.

The demonſtration of an affirmative propoſition is preferable to that of a negative; the demonſtration of an univerſal to that of a particular; and direct demonſtration to that *ad abſurdum.*

The principles are more certain than the concluſion.

There cannot be opinion and ſcience of the ſame thing at the ſame time.

In the ſecond book we are taught, that the queſtions that may be put with regard to any thing, are four: 1. Whether the thing be thus affected. 2. Why it is thus affected. 3. Whether it exiſts. 4. What it is.

The laſt of theſe queſtions Ariſtotle, in good Greek, calls the *What it is* of a thing. The ſchoolmen, in very barbarous Latin, called this, the *quiddity* of a thing. This quiddity, he proves by many arguments, cannot be demonſtrated, but muſt be

be fixed by a definition. This gives occaſion to treat of definition, and how a right definition ſhould be formed. As an example, he gives a definition of the number *three*, and defines it to be the firſt odd number.

In this book he treats alſo of the four kinds of cauſes; efficient, material, formal, and final.

Another thing treated of in this book is, the manner in which we acquire firſt principles, which are the foundation of all demonſtration. Theſe are not innate, becauſe we may be for a great part of life ignorant of them: nor can they be deduced demonſtratively from any antecedent knowledge, otherwiſe they would not be firſt principles. Therefore he concludes, that firſt principles are got by induction, from the informations of ſenſe. The ſenſes give us informations of individual things, and from theſe by induction we draw general concluſions: for it is a maxim with Ariſtotle, That there is nothing in the underſtanding which was not before in ſome ſenſe.

The knowledge of firſt principles, as it is not acquired by demonſtration, ought not to be called ſcience, and therefore he calls it *intelligence*.

## Sect. 2. *Of the Topics.*

The profeſſed deſign of the Topics is, to ſhow a method by which a man may be able to reaſon with probability and conſiſtency upon every queſtion that can occur.

Every queſtion is either about the genus of the ſubject, or its ſpecific difference, or ſome thing proper to it, or ſomething accidental.

To prove that this diviſion is complete, Ariſtotle reaſons thus: Whatever is attributed to a ſubject, it muſt either be, that the ſubject can be reciprocally attributed to it, or that it cannot. If the ſubject and attribute can be reciprocated, the attribute either declares what the ſubject is, and then it is a definition; or it does not declare what the ſubject is, and then it is a property. If the attribute cannot be reciprocated, it muſt be ſomething contained in the definition, or not. If it be contained in the definition of the ſubject, it muſt be the genus of the ſubject, or its ſpecific difference; for the definition conſiſts of theſe two. If it be not contained in the definition of the ſubject, it muſt be an accident.

The furniture proper to fit a man for arguing dialectically may be reduced to theſe four heads: 1. Probable propoſitions of all ſorts, which may on occaſion be aſſumed in an argument. 2. Diſtinctions of words which are nearly of the ſame ſignification. 3. Diſtinctions of things which are not ſo far aſunder but that they may be taken for one and the ſame. 4. Similitudes.

The ſecond and the five following books are taken up in enumerating the topics or heads of argument that may be uſed in queſtions about the genus, the definition, the properties, and the accidents of a thing; and occaſionally he introduces the topics for proving things to be the ſame, or different; and the topics for proving one thing to be better or worſe than another.



In this enumeration of topi
more the fertility of his gen
of method. The writers of l
opinion: for I know none of
him cloſely upon this ſubject.
the topics of argumentation
axioms. For inſtance, whe
the genus of a thing, it muſt
axiom about genus and ſpec
definition, it muſt be deter
relating to definition, and th
other queſtions. They have
doctrine of the topics to ce
and diſpoſed theſe axioms
heads.

This method ſeems to be
elegant than that of Ariſtot
knowledged, that Ariſtotle
rials from which all the lo
their doctrine of topics: and
and other rhetorical writer
debted to the topics of A

He was the firſt, as far as
attempt of this kind: and i
magnanimity of his own ge
philoſophy. Every ſubject
been reduced to ten categor
be attributed to any ſubject
attempted to reduce all th
fixed rules of figure and m
the topics of argumentatio
and by that means to coll

n of topics, Ariſtotle has ſhown
f his genius, than the accuracy
iters of logic ſeem to be of this
none of them that has followed
is ſubject. They have conſidered
nentation as reducible to certain
ce, when the queſtion is about
g, it muſt be determined by ſome
and ſpecies; when it is about a
be determined by ſome axiom
n, and things defined: and ſo of
hey have therefore reduced the
ics to certain axioms or canons,
axioms in order under certain

ems to be more commodious and
f Ariſtotle. Yet it muſt be ac-
Ariſtotle has furniſhed the mate-
ll the logicians have borrowed
ics: and even Cicero, Quintilian,
l writers, have been much in-
ics of Ariſtotle.
as far as I know, who made an
d: and in this he acted up to the
own genius, and that of ancient
ſubject of human thought had
categories; every thing that can
ſubject, to five predicables: he
e all the forms of reaſoning to
re and mode, and to reduce all
mentation under certain heads;
to collect as it were into one

ſtore all that can be ſaid on one ſide or the other of every queſtion, and to provide a grand arſenal, from which all future combatants might be furniſhed with arms offenſive and defenſive in every cauſe, ſo as to leave no room to future generations to invent any thing new.

The laſt book of the Topics is a code of the laws according to which a ſyllogiſtical diſputation ought to be managed, both on the part of the aſſailant and defendant. From which it is evident, that this philoſopher trained his diſciples to contend, not for truth merely, but for victory.

### Sect. 3. *Of the book concerning Sophiſms.*

A ſyllogiſm which leads to a falſe concluſion, muſt be vicious, either in matter or form: for from true principles nothing but truth can be juſtly deduced. If the matter be faulty, that is, if either of the premiſes be falſe, that premiſe muſt be denied by the defendant. If the form be faulty, ſome rule of ſyllogiſm is tranſgreſſed; and it is the part of the defendant to ſhow, what general or ſpecial rule it is that is tranſgreſſed. So that, if he be an able logician, he will be impregnable in the defence of truth, and may reſiſt all the attacks of the ſophiſt. But as there are ſyllogiſms which may ſeem to be perfect both in matter and form, when they are not really ſo, as a piece of money may ſeem to be good coin when it is adulterated; ſuch fallacious ſyllogiſms are conſidered in this treatiſe, in order to make a



defendant more expert in
weapons.

And here the author, wi
attempts to bring all the fa
a ſyllogiſm under thirteen
the diction or language, an

The fallacies in diction
guous word is taken at on
at another time in another.
phraſe is taken in the ſam
ambiguities in ſyntax; wh
in ſyntax that ought to b
when they ought to be con
in proſody, accent, or pr
guity ariſing from ſome f

When a ſophiſm of any
into another language, o
ambiguous expreſſions in
fallacy is evident, and the
four terms.

The ſeven fallacies wh
the diction, but in the t
names in Greek and in L
diſtinguiſhed. Without mi
give a brief account of th

1. The firſt is, Taking
of things for a natural or
when from an accident w
from an example we infer
act we infer a habit.

2. Taking that abſolu
taken comparatively, or

xpert in the uſe of his defenſive

uthor, with his uſual magnanimity
all the fallacies that can enter into
thirteen heads; of which ſix lie in
guage, and ſeven not in the diction.
diction are, 1. When an ambi-
ken at one time in one ſenſe, and
another. 2. When an ambiguous
the ſame manner. 3. and 4. are
ntax; when words are conjoined
ght to be disjoined; or disjoined
to be conjoined. 5. is an ambiguity
nt, or pronunciation. 6. an ambi-
n ſome figure of ſpeech.
n of any of theſe kinds is tranſlated
guage, or even rendered into un-
ſſions in the ſame language, the
, and the ſyllogiſm appears to have

acies which are ſaid not to be in
in the thing, have their proper
and in Latin, by which they are
thout minding their names, we ſhall
nt of their nature.
Taking an accidental conjunction
atural or neceſſary connexion: as,
cident we infer a property; when
we infer a rule; when from a ſingle
abit.
t abſolutely which ought to be
vely, or with a certain limitation.

The conſtruction of language often leads into this fallacy: for in all languages, it is common to uſe abſolute terms to ſignify things that carry in them ſome ſecret compariſon; or to uſe unlimited terms, to ſignify what from its nature muſt be limited.

3. Taking that for the cauſe of a thing which is only an occaſion, or concomitant.

4. Begging the queſtion. This is done, when the thing to be proved, or ſome thing equivalent, is aſſumed in the premiſes.

5. Miſtaking the queſtion. When the concluſion of the ſyllogiſm is not the thing that ought to be proved, but ſomething elſe that is miſtaken for it.

6. When that which is not a conſequence is miſtaken for a conſequence; as if, becauſe all Africans are black, it were taken for granted that all blacks are Africans.

7. The laſt fallacy lies in propoſitions that are complex, and imply two affirmations, where of one may be true, and the other falſe; ſo that whether you grant the propoſition, or deny it, you are intangled: as when it is affirmed, that ſuch a man has left off playing the fool. If it be granted, it implies, thas he did play the fool formerly. If it be denied, it implies, or ſeems to imply, that he plays the fool ſtill.

In this enumeration, we ought, in juſtice to Ariſtotle, to expect only the fallacies incident to categorical ſyllogiſms. And I do not find, that the logicians have made any additions to it when taken in this view; although they have given ſome other fallacies that are incident to ſyllogiſms of the hypo.

thetical kind, particularly the fallacy of an incomplete enumeration in disjunctive ſyllogiſms and dilemmas.

The different ſpecies of ſophiſms above mentioned are not ſo preciſely defined by Ariſtotle, or by ſubſequent logicians, but that they allow of great latitude in the application; and it is often dubious under what particular ſpecies a ſophiſtical ſyllogiſm ought to be claſſed. We even find the ſame example brought under one ſpecies by one author, and under another ſpecies by another. Nay, what is more ſtrange, Ariſtotle himſelf employs a long chapter in proving by a particular induction, that all the ſeven may be brought under that which we have called *miſtaking the queſtion*, and which is commonly called *ignoratio elenchi.* And indeed the proof of this is eaſy, without that laborious detail which Ariſtotle uſes for the purpoſe: for if you lop off from the concluſion of a ſophiſtical ſyllogiſm all that is not ſupported by the premiſes, the concluſion, in that caſe, will always be found different from that which ought to have been proved; and ſo it falls under the *ignoratio elenchi.*

It was probably Ariſtotle's aim, to reduce all the poſſible variety of ſophiſms, as he had attempted to do of juſt ſyllogiſms, to certain definite ſpecies: but he ſeems to be ſenſible that he had fallen ſhort in this laſt attempt. When a genus is properly divided into its ſpecies, the ſpecies ſhould not only, when taken together, exhauſt the whole genus; but every ſpecies ſhould have its own precinct ſo accurately defined, that one ſhall not encroach upon

another. And when an individual can be ſaid to belong to two or three different ſpecies, the diviſion is imperfect; yet this is the caſe of Ariſtotle's diviſion of the ſophiſms, by his own acknowledgment. It ought not therefore to be taken for a diviſion ſtrictly logical. It may rather be compared to the ſeveral ſpecies or forms of action invented in law for the redreſs of wrongs. For every wrong there is a remedy in law by one action or another: but ſometimes a man may take his choice among ſeveral different actions. So every ſophiſtical ſyllogiſm may, by a little art, be brought under one or other of the ſpecies mentioned by Ariſtotle, and very often you may take your choice of two or three.

Beſides the enumeration of the various kinds of ſophiſms, there are many other things in this treatiſe concerning the art of managing a ſyllogiſtical diſpute with an antagoniſt. And indeed, if the paſſion for this kind of litigation, which reigned for ſo many ages, ſhould ever again lift up its head, we may predict, that the Organon of Ariſtotle will then become a faſhionable ſtudy: for it contains ſuch admirable materials and documents for this art, that it may be ſaid to have brought it to a ſcience.

The concluſion of this treatiſe ought not to be overlooked: it manifeſtly relates, not to the preſent treatiſe only, but alſo to the whole analytics and topics of the author. I ſhall therefore give the ſubſtance of it.

"Of thoſe who may be called inventors, ſome "have made important additions to things long "before begun, and carried on through a courſe

" of ages; others have given a ſmall beginning to " things which, in ſucceeding times, will be brought " to greater perfection. The beginning of a thing, " though ſmall, is the chief part of it, and requires " the greateſt degree of invention; for it is eaſy to " make additions to inventions once begun. Now " with regatd to the dialectical art, there was not " ſomething done, and ſomething remaining to be " done. There was abſolutely nothing done: for " thoſe who profeſſed the art of diſputation, had " only a ſet of orations compoſed, and of argu- " ments, and of captious queſtions, which might " ſuit many occaſions. Theſe their ſcholars ſoon " learned, and fitted to the occaſion. This was not " to teach you the art, but to furniſh you with the " materials produced by the art: as if a man profeſ- " ſing to teach you the art of making ſhoes, ſhould " bring you a parcel of ſhoes of various ſizes and " ſhapes, from which you may provide thoſe who " want. This may have its uſe; but it is not to teach " the art of making ſhoes. And indeed, with regard " to rhetorical declamation, there are many pre- " cepts handed down from ancient times; but with " regard to the conſtruction of ſyllogiſms, not one.

" We have therefore employed much time and " labor upon this ſubject; and if our ſyſtem appear " to you not to be in the number of thoſe things, " which, being before carried a certain length, " were left to be perfected; we hope for your favor- " able acceptance of what is done, and your indul- " gence in what is left imperfect."

## CHAP. VI.

### Reflections on the Utility of Logic, and the Means of its improvement.

#### SECT. 1. *Of the Utility of Logic.*

MEN rarely leave one extreme without running into the contrary. It is no wonder, therefore, that the exceſſive admiration of Ariſtotle, which continued for ſo many ages, ſhould end in an undue contempt; and that the high eſteem of logic as the grand engine of ſcience, ſhould at laſt make way for too unfavorable an opinion, which ſeems now prevalent, of its being unworthy of a place in a liberal education. Thoſe who think according to the faſhion, as the greateſt part of men do, will be as prone to go into this extreme, as their grandfathers were to go into the contrary.

Laying aſide prejudice, whether faſhionable or unfaſhionable, let us conſider whether logic is, or may be made, ſubſervient to any good purpoſe. Its profeſſed end is, to teach men to think, to judge, and to reaſon, with preciſion and accuracy. No man will ſay that this is a matter of no importance, the only thing therefore that admits of doubt, is, whether it can be taught.

To reſolve this doubt, it may be obſerved, that our rational faculty is the gift of God, given to

men in very different meaſure. Some have a large portion, ſome a leſs; and where there is a remarkable defect of the natural power, it cannot be ſupplied by any culture. But this natural power, even where it is the ſtrongeſt, may lie dead for want of the means of improvement: a ſavage may have been born with as good faculties as a Bacon or a Newton; but his talent was buried, being never put to uſe; while theirs was cultivated to the beſt advantage.

It may likewiſe be obſerved, that the chief mean of improving our rational power, is the vigorous exerciſe of it, in various ways and in different ſubjects, by which the habit is acquired of exerciſing it properly. Without ſuch exerciſe, and good ſenſe over and above, a man who has ſtudied logic all his life, may after all be only a petulant wrangler, without true judgment or ſkill of reaſoning in any ſcience.

I take this to be Locke's meaning, when in his Thoughts on Education he ſays, "If you would "have your ſon to reaſon well, let him read "Chillingworth." The ſtate of things is much altered ſince Locke wrote. Logic has been much improved, chiefly by his writings; and yet much leſs ſtreſs is laid upon it, and leſs time conſumed in it. His counſel, therefore, was judicious and ſeaſonable; to wit, That the improvement of our reaſoning power is to be expected much more from an intimate acquaintance with the authors who reaſon the beſt, than from ſtudying voluminous ſyſtems of logic. But if he had meant, that the

ſtudy of logic was of no uſe nor deſerved any attention, he ſurely would not have taken the pains to have made ſo conſiderable an addition to it, by his *Eſſay on the Human Underſtanding*, and by his *Thoughts on the Conduct of the Underſtanding*. Nor would he have remitted his pupil to Chillingworth, the acuteſt logician as well as the beſt reaſoner of his age; and one who, in innumerable places of his excellent book, without pedantry even in that pedantic age, makes the happieſt application of the rules of logic, for unravelling the ſophiſtical reaſoning of his antagoniſt.

Our reaſoning power makes no appearance in infancy; but as we grow up, it unfolds itſelf by degrees, like the bud of a tree. When a child firſt draws an inference, or perceives the force of an inference drawn by another, we may call this *the birth of his reaſon:* but it is yet like a new-born babe, weak and tender; it muſt be cheriſhed, carried in arms, and have food of eaſy digeſtion, till it gather ſtrength.

I believe no man remembers the birth of his reaſon: but it is probable that his deciſions are at firſt weak and wavering; and, compared with that ſteady conviction which he acquires in ripe years, are like the dawn of the morning compared with noon-day. We ſee that the reaſon of children yields to authority, as a reed to the wind; nay, that it clings to it, and leans upon it, as if conſcious of its own weakneſs.

When reaſon acquires ſuch ſtrength as to ſtand on its own bottom, without the aid of authority

or even in oppoſition to authority, this may be called its *manly age.* But in moſt men, it hardly ever arrives at this period. Many, by their ſituation in life, have not the opportunity of cultivating their rational powers. Many, from the habit they have acquired of ſubmitting their opinions to the authority of others, or from ſome other principle which operates more powerfully than the love of truth, ſuffer their judgment to be carried along to the end of their days, either by the authority of a leader, or of a party, or of the multitude, or by their own paſſions. Such perſons, however learned, however acute, may be ſaid to be all their days children in underſtanding. They reaſon, they diſpute, and perhaps write: but it is not that they may find the truth; but that they may defend opinions which have deſcended to them by inheritance, or into which they have fallen by accident, or been led by affection.

I agree with Mr. Locke, that there is no ſtudy better fitted to exerciſe and ſtrengthen the reaſoning powers, than that of the mathematical ſciences; for two reaſons; firſt, Becauſe there is no other branch of ſcience which gives ſuch ſcope to long and accurate trains of reaſoning; and, ſecondly, Becauſe in mathematics there is no room for authority nor for prejudice of any kind, which may give a falſe bias to the judgment.

When a youth of moderate parts begins to ſtudy Euclid, every thing at firſt is new to him. His apprehenſion is unſteady: his judgment is feeble; and reſts partly upon the evidence of the thing,

and partly upon the authority of his teacher. But every time he goes over the definitions, the axioms, the elementary propoſitions, more light breaks in upon him: the language becomes familiar, and conveys clear and ſteady conceptions: the judgement is confirmed: he begins to ſee what demonſtration is; and it is impoſſible to ſee it without being charmed with it. He perceives it to be a kind of evidence that has no need of authority to ſtrengthen it. He finds himſelf emancipated from that bondage; and exults ſo much in this new ſtate of independence, that he ſpurns at authority, and would have demonſtration for every thing; until experience teaches him, that this is a kind of evidence that cannot be had in moſt things; and that in his moſt important concerns, he muſt reſt contented with probability.

As he goes on in mathematics, the road of demonſtration becomes ſmooth and eaſy: he can walk in it firmly, and take wider ſteps: and at laſt he acquires the habit, not only of underſtanding a demonſtration, but of diſcovering and demonſtrating mathematical truths.

Thus, a man, without rules of logic, may acquire a habit of reaſoning juſtly in mathematics; and, I believe, he may, by like means, acquire a habit of reaſoning juſtly in mechanics, in juriſprudence, in politics, or in any other ſcience. Good ſenſe, good examples, and aſſiduous exerciſe, may bring a man to reaſon juſtly and acutely in his own profeſſion, without rules.

But if any man think, that from this conceſſion

he may infer the inutility of logic, he betrays a great want of that art by this inference: for it is no better reaſoning than this, That becauſe a man may go from Edinburgh to London by the way of Paris, therefore any other road is uſeleſs.

There is perhaps no practical art which may not be acquired, in a very conſiderable degree, by example and practice, without reducing it to rules. But practice, joined with rules, may carry a man on in his art farther and more quickly, than practice without rules. Every ingenious artiſt knows the utility of having his art reduced to rules, and by that means made a ſcience. He is thereby enlightened in his practice, and works with more aſſurance. By rules, he ſometimes corrects his own errors, and often detects the errors of others: he finds them of great uſe to confirm his judgment, to juſtify what is right, and to condemn what is wrong.

Is it of no uſe in reaſoning, to be well acquainted with the various powers of the human underſtanding, by which we reaſon? Is it of no uſe, to reſolve the various kinds of reaſoning into their ſimple elements; and to diſcover, as far as we are able, the rules by which theſe elements are combined in judging and in reaſoning? Is it of no uſe, to mark the various fallacies in reaſoning, by which even the moſt ingenious men have been led into error? It muſt ſurely betray great want of underſtanding, to think theſe things uſeleſs or unimportant. Theſe are the things which logicians have attempted; and which they have executed;

not indeed ſo completely as to leave no room for improvement, but in ſuch a manner as to give very conſiderable aid to our reaſoning powers. That the principles laid down with regard to definition and diviſion, with regard to the converſion and oppoſition of propoſitions and the general rules of reaſoning, are not without uſe, is ſufficiently apparent from the blunders committed by thoſe who diſdain any acquaintance with them.

Although the art of categorical ſyllogiſm is better fitted for ſcholaſtic litigation, than for real improvement in knowledge, it is a venerable piece of antiquity, and a great effort of human genius. We admire the pyramids of Egypt, and the wall of China, though uſeleſs burdens upon the earth. We can bear the moſt minute deſcription of them, and travel hundreds of leagues to ſee them. If any perſon ſhould with ſacrilegious hands deſtroy or deface them, his memory would be had in abhorrence. The predicaments and predicables, the rules of ſyllogiſm, and the topics, have a like title to our veneration as antiquities: they are uncommon efforts, not of human power, but of human genius; and they make a remarkable period in the progreſs of human reaſon.

The prejudice againſt logic has probably been ſtrengthened by its being taught too early in life. Boys are often taught logic as they are taught their creed, when it is an exerciſe of memory only, without underſtanding. One may as well expect to underſtand grammar before he can ſpeak, as to underſtand logic before he can reaſon. It muſt

even

even be acknowledged, that commonly we are capable of reaſoning in mathematics more early than in logic. The objects preſented to the mind in this ſcience, are of a very abſtract nature, and can be diſtinctly conceived only when we are capable of attentive reflection upon the operations of our own underſtanding, and after we have been accuſtomed to reaſon. There may be an elementary logic, level to the capacity of thoſe who have been but little exerciſed in reaſoning; but the moſt important parts of this ſcience require a ripe underſtanding, capable of reflecting upon its own operations. Therefore to make logic the firſt branch of ſcience that is to be taught, is an old error that ought to be corrected.

## Sect. 2. *Of the Improvement of Logic.*

In compoſitions of human thought expreſſed by ſpeech or by writing, whatever is excellent and whatever is faulty, fall within the province, either of grammar, or of rhetoric, or of logic. Propriety of expreſſion is the province of grammar; grace, elegance, and force, in thought and in expreſſion, are the province of rhetoric; juſtneſs and accuracy of thought are the province of logic.

The faults in compoſition, therefore, which fall under the cenſure of logic, are obſcure and indiſtinct conceptions, falſe judgment, inconcluſive reaſoning, and all improprieties in diſtinctions, definitions, diviſion, or method. To aid our rational powers, in avoiding theſe faults and in attaining

the oppoſite excellencies, is the end of logic; and whatever there is in it that has no tendency to promote this end, ought to be thrown out.

The rules of logic being of a very abſtract nature, ought to be illuſtrated by a variety of real and ſtriking examples taken from the writings of good authors. It is both inſtructive and entertaining, to obſerve the virtues of accurate compoſition in writers of fame. We cannot ſee them, without being drawn to the imitation of them, in a more powerful manner than we can be by dry rules. Nor are the faults of ſuch writers, leſs inſtructive or leſs powerful monitors. A wreck left upon a ſhoal or upon a rock, is not more uſeful to the ſailor, than the faults of good writers, when ſet up to view, are to thoſe who come after them. It was a happy thought in a late ingenious writer of Engliſh grammar, to collect under the ſeveral rules, examples of bad Engliſh found in the moſt approved authors. It were to be wiſhed that the rules of logic were illuſtrated in the ſame manner. By theſe means, a ſyſtem of logic would become a repoſitory; wherein whatever is moſt acute in judging and in reaſoning, whatever is moſt accurate in dividing, diſtinguiſhing, and defining, ſhould be laid up and diſpoſed in order for our imitation; and wherein the falſe ſteps of eminent authors ſhould be recorded for our admonition.

After men had labored in the ſearch of truth near two thouſand years by the help of ſyllogiſms, Lord Bacon propoſed the method of induction, as a more effectual engine for that purpoſe. His

*Novum Organum* gave a new turn to the thoughts and labors of the inquiſitive, more remarkable and more uſeful than that which the *Organum* of Ariſtotle had given before; and may be conſidered as a ſecond grand æra in the progreſs of human reaſon.

The art of ſyllogiſm produced numberleſs diſputes; and numberleſs ſects who fought againſt each other with much animoſity, without gaining or loſing ground, but did nothing conſiderable for the benefit of human life. The art of induction, firſt delineated by Lord Bacon, produced numberleſs laboratories and obſervatories; in which Nature has been put to the queſtion by thouſands of experiments, and forced to confeſs many of her ſecrets, that before were hid from mortals. And by theſe, arts have been improved, and human knowledge wonderfully increaſed.

In reaſoning by ſyllogiſm, from general principles we deſcend to a concluſion virtually contained in them. The proceſs of induction is more arduous; being an aſcent from particular premiſes to a general concluſion. The evidence of ſuch general concluſions is probable only, not demonſtrative: but when the induction is ſufficiently copious, and carried on according to the rules of art, it forces conviction no leſs than demonſtration itſelf does.

The greateſt part of human knowledge reſts upon evidence of this kind. Indeed we can have no other for general truths which are contingent in their nature, and depend upon the will and ordination of the Maker of the world. He governs

the world he has made, by general laws. The effects of theſe laws in particular phenomena, are open to our obſervation; and by obſerving a train of uniform effects with due caution, we may at laſt decipher the law of nature by which they are regulated.

Lord Bacon has diſplayed no leſs force of genius in reducing to rules this method of reaſoning, than Ariſtotle did in the method of ſyllogiſm. His *Novum Organum* ought therefore to be held as a moſt important addition to the ancient logic. Thoſe who underſtand it, and enter into its ſpirit, will be able to diſtinguiſh the chaff from the wheat in philoſophical diſquiſitions into the works of God. They will learn to hold in due contempt all hypotheſes and theories, the creatures of human imagination; and to reſpect nothing but facts ſufficiently vouched, or concluſions drawn from them by a fair and chaſte interpretation of nature.

Moſt arts have been reduced to rules, after they had been brought to a conſiderable degree of perfection by the natural ſagacity of artiſts; and the rules have been drawn from the beſt examples of the art, that had been before exhibited: but the art of philoſophical induction was delineated by Lord Bacon in a very ample manner, before the world had ſeen any tolerable example of it. This, although it adds greatly to the merit of the author, muſt have produced ſome obſcurity in the work, and a defect of proper examples for illuſtration. This defect may now be eaſily ſupplied, from thoſe authors who, in their philoſophical diſquiſitions, have the moſt ſtrictly purſued the path

pointed out in the *Novum Organum.* Among theſe Sir Iſaac Newton appears to hold the firſt rank; having, in the third book of his *Principia* and in his Optics, had the rules of the *Novum Organum* conſtantly in his eye.

I think Lord Bacon was alſo the firſt who endeavoured to reduce to a ſyſtem the prejudices or biaſſes of the mind, which are the cauſes of falſe judgment, and which he calls *the idols of the human underſtanding.* Some late writers of logic have very properly introduced this into their ſyſtem; but it deſerves to be more copiouſly handled, and to be illuſtrated by real examples.

It is of great conſequence to accurate reaſoning, to diſtinguiſh firſt principles which are to be taken for granted, from propoſitions which require proof. All the real knowledge of mankind may be divided into two parts: the firſt conſiſting of ſelf-evident propoſitions; the ſecond, of thoſe which are deduced by juſt reaſoning from ſelf-evident propoſitions. The line that divides theſe two parts ought to be marked as diſtinctly as poſſible; and the principles that are ſelf-evident reduced, as far as can be done, to general axioms. This has been done in mathematics from the beginning, and has tended greatly to the advancement of that ſcience. It has lately been done in natural philoſophy: and by this means that ſcience has advanced more in a hundred and fifty years, than it had done before in two thouſand. Every ſcience is in an unformed ſtate until its firſt principles are aſcertained: after which, it advances regularly, and ſecures the ground it has gained.

Although firſt principles do not admit of direct proof, yet there muſt be certain marks and characters, by which thoſe that are truly ſuch may be diſtinguiſhed from counterfeits. Theſe marks ought to be deſcribed, and applied, to diſtinguiſh the genuine from the ſpurious.

In the ancient philoſophy, there is a redundance, rather than a defect, of firſt principles. Many things were aſſumed under that character without a juſt title: That nature abhors a *vacuum;* That bodies do not gravitate in their proper place; That the heavenly bodies undergo no change; That they move in perfect circles, and with an equable motion. Such principles as theſe were aſſumed in the Peripatetic philoſophy, without proof, as if they were ſelf-evident.

Des Cartes, ſenſible of this weakneſs in the ancient philoſophy, and deſirous to guard againſt it in his own ſyſtem, reſolved to admit nothing until his aſſent was forced by irreſiſtible evidence. The firſt thing that be found to be certain and evident was, that he thought, and reaſoned, and doubted. He found himſelf under a neceſſity of believing the exiſtence of thoſe mental operations of which he was conſcious: and having thus found ſure footing in this one principle of conſciouſneſs, he reſted ſatisfied with it, hoping to be able to build the whole fabric of his knowledge upon it; like Archimedes, who wanted but one fixed point to move the whole earth. But the foundation was too narrow; and in his progreſs he unawares aſſumes many things leſs evident than thoſe which he attempts to prove. Although he was not able

to ſuſpect the teſtimony of conſciouſneſs; yet he thought the teſtimony of ſenſe, of memory, and of every other faculty, might be ſuſpected, and ought not to be received until proof was brought that they are not fallacious. Therefore he applies theſe faculties, whoſe character is yet in queſtion, to prove, That there is an infinitely perfect Being, who made him, and who made his ſenſes, his memory, his reaſon, and all his faculties; That this Being is no deceiver, and therefore could not give him faculties that are fallacious; and that on this account they deſerve credit.

It is ſtrange, that this philoſopher, who found himſelf under a neceſſity of yielding to the teſtimony of conſciouſneſs, did not find the ſame neceſſity of yielding to the teſtimony of his ſenſes, his memory, and his underſtanding: and that while he was certain that he doubted, and reaſoned, he was uncertain whether two and three made five, and whether he was dreaming or awake. It is more ſtrange, that ſo acute a reaſoner ſhould not perceive, that his whole train of reaſoning to prove that his faculties were not fallacious, was mere ſophiſtry; for if his faculties were fallacious, they might deceive him in this train of reaſoning; and ſo the concluſion, That they were not fallacious, was only the teſtimony of his faculties in their own favor, and might be a fallacy.

It is difficult to give any reaſon for diſtruſting our other faculties, that will not reach conſciouſneſs itſelf. And he who diſtruſts the faculties of judging and reaſoning which God hath given him, muſt even reſt in his ſcepticiſm, till he come to a

ſound mind, or until God give him new faculties to ſit in judgment upon the old. If it be not a firſt principle, That our faculties are not fallacious, we muſt be abſolute ſceptics: for this principle is incapable of proof; and if it is not certain, nothing elſe can be certain.

Since the time of Des Cartes, it has been faſhionable with thoſe who dealt in abſtract philoſophy, to employ their invention in finding philoſophical arguments, either to prove thoſe truths which ought to be received as firſt principles, or to overturn them: and it is not eaſy to ſay, whether the authority of firſt principles is more hurt by the firſt of theſe attempts, or by the laſt: for ſuch principles can ſtand ſecure only upon their own bottom; and to place them upon any other foundation than that of their intrinſic evidence, is in effect to overturn them.

I have lately met with a very ſenſible and judicious treatiſe, wrote by Father Buffier about fifty years ago, concerning firſt principles and the ſource of human judgments, which, with great propriety, he prefixed to his treatiſe of logic. And indeed I apprehend it is a ſubject of ſuch conſequence, that if inquiſitive men can be brought to the ſame unanimity in the firſt principles of the other ſciences, as in thoſe of mathematics and natural philoſophy, (and why ſhould we deſpair of a general agreement in things that are ſelf-evident?) this might be conſidered as a third grand æra in the progreſs of human reaſon.

END OF THE THIRD VOLUME.